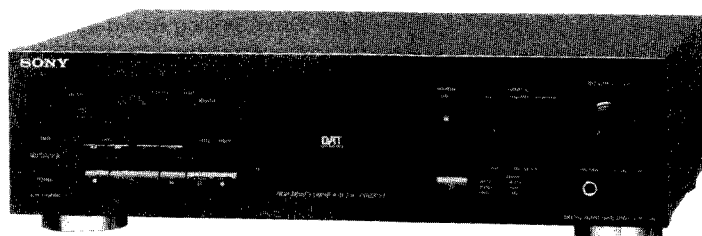


# DTC-790

## SERVICE MANUAL

*US Model  
Canadian Model  
AEP Model*



Model Name Using Similar Mechanism	DTC-690
Tape Transport Mechanism Type	DATM-110

### SPECIFICATIONS

#### System

Tape	Digital audio tape
Recording head	Rotary head
Recording time (when using DT-120)	Standard: 120 minutes Long-play: 240 minutes
Tape speed	Standard: 8.15 mm/s Long-play: 4.075 mm/s
Drum rotation	Standard: 2,000 rpm Long-play: 1,000 rpm
Track pitch	13.6 $\mu$ m (20.4 $\mu$ m)
Sampling frequency	48 kHz, 44.1 kHz, 32 kHz
Number of channels	2 channels, stereo
D / A conversion (quantization)	Standard: 16-bit linear Long-play: 12-bit non-linear
Frequency response	Standard: 2-22,000 Hz ( $\pm 0.5$ dB) Long-play: 2-14,500 Hz ( $\pm 0.5$ dB)
Signal-to-noise ratio	90 dB or more (Standard and long-play mode)
Dynamic range	90 dB or more (Standard and long-play mode)
Total harmonic distortion	Standard: 0.005% or less (1 kHz) Long-play: 0.008% or less (1 kHz)
Wow and flutter	Below measurable limit ( $\pm 0.001\%$ W.PEAK)

#### Input Connectors

Connector	Jack type	Input impedance	Rated input level
ANALOG (LINE)	Phono jacks	47 kilohms	-4 dBs
DIGITAL OPTICAL	Optical connector	—	—
DIGITAL COAXIAL	Phono jack	75 ohms	0.5 Vp-p

#### Output Connectors

Connector	Jack type	Output impedance	Rated output level	Load impedance
ANALOG (LINE)	Phono jacks	470 ohms	-4 dBs	10 kilohms or more
DIGITAL OPTICAL	Optical connector	—	(wavelength 660nm)	—
HEADPHONES	Stereo phone-plug jack	100 ohms	1.2 mW	32 ohms

— Continued on next page —

**DIGITAL AUDIO TAPE DECK**  
**SONY®**





## TABLE OF CONTENTS

### General section

#### Power requirements

Where purchased	Power requirements
US, Canadian model	120 V AC, 60 Hz
AEP, German model	220 - 240 V AC, 50/60 Hz

Power consumption	30 W
Dimensions	Approx 430 × 122 × 325 mm (w/h/d) (17 × 4 <sup>7</sup> / <sub>8</sub> × 12 <sup>7</sup> / <sub>8</sub> inches)
Weight	Approx 5.0 kg (11 lb 0.4 oz)

#### Remote commander RM-D9 (supplied)

Dimensions	Approx 45 × 185 × 20 mm (w/h/d) (1 <sup>13</sup> / <sub>16</sub> × 7 <sup>3</sup> / <sub>8</sub> × 1 <sup>13</sup> / <sub>16</sub> inches)
Weight	Approx 100 g (3.5 oz) incl. batteries

#### Supplied accessories

- Audio connecting cords (2)
- Remote commander (remote) RM-D9 (1)
- Size-AA (R6) batteries (2)
- Operating instructions (1)
- Warranty card (U.S.A. and Canadian models only) (1)

Design and specifications are subject to change without notice.

#### Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

#### SAFETY-RELATED COMPONENT WARNING !!

**COMPONENTS IDENTIFIED BY MARK  $\Delta$  OR DOTTED LINE WITH MARK  $\Delta$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

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#### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

**LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  $\Delta$  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.**

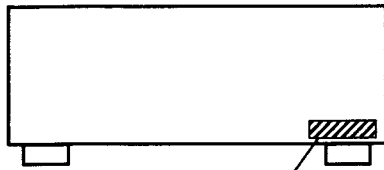
### PRECAUTIONS FOR INSPECTIONS AND REPAIR WITH POWER OFF

Before beginning repair work after turning OFF the main switch, be sure to first remove CN901 (EH5P), 902 (EH6P) of the main board. When assembling the equipment, be sure to plug this connector last. Even with the main switch turned off, there still remain electrical charges in part of the power circuit. Therefore, plugging in or removing the connector could cause the power supply terminal to short with an adjacent terminal. This could cause possible component damage.



## MODEL IDENTIFICATION

— Back Panel —



3-922-820-1□ (US, Canadian Model)  
-2□ (AEP, German Model)

## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

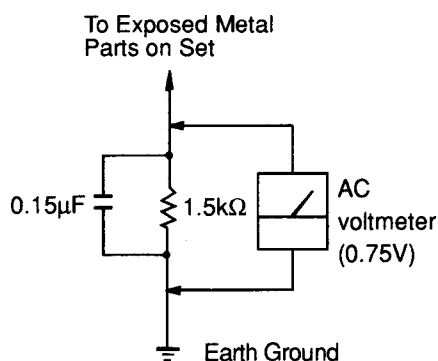
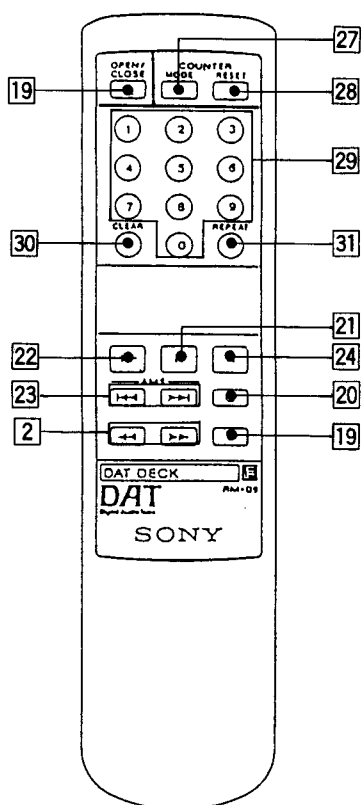
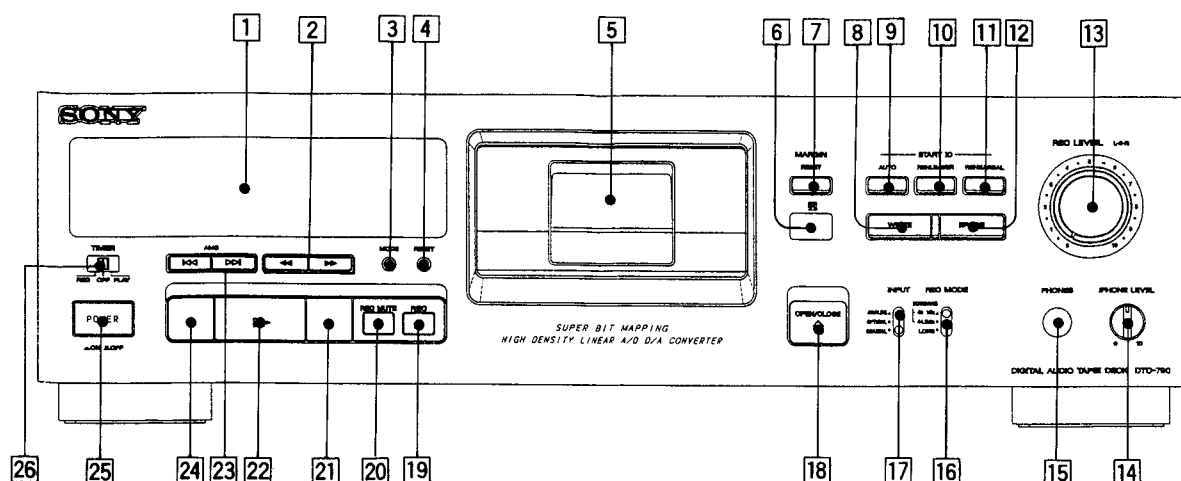


Fig. A. Using an AC voltmeter to check AC leakage.



## SECTION 1 GENERAL

### FRONT PANEL



- 1 Display window
- 2 ◀◀/▶▶ (rewind/fast-forward) buttons
- 3 MODE (counter mode) button
- 4 RESET (counter reset) button
- 5 Cassette holder
- 6 Remote sensor
- 7 MARGIN RESET button
- 8 WRITE button
- 9 START ID AUTO button
- 10 START ID RENUMBER button
- 11 START ID REHEARSAL button
- 12 ERASE button
- 13 REC (recording) LEVEL control
- 14 PHONE LEVEL control
- 15 PHONES jack
- 16 REC (recording) MODE switch
- 17 INPUT switch
- 18 OPEN/CLOSE button
- 19 REC ● (recording) button
- 20 REC (recording) MUTE ○ button
- 21 || (pause) button
- 22 ▷ (play) button
- 23 ◀◀/▶▶ (AMS\*) buttons
- 24 ■ (stop) button
- 25 POWER switch
- 26 TIMER switch
- 27 COUNTER MODE button
- 28 COUNTER RESET button
- 29 Numeric buttons
- 30 CLEAR button
- 31 REPEAT button

\* AMS is the abbreviation of Auto Music Sensor.



## SECTION 2

### DISASSEMBLY

- Remove the parts numbered in the figure (❶, etc.) in numerical order.

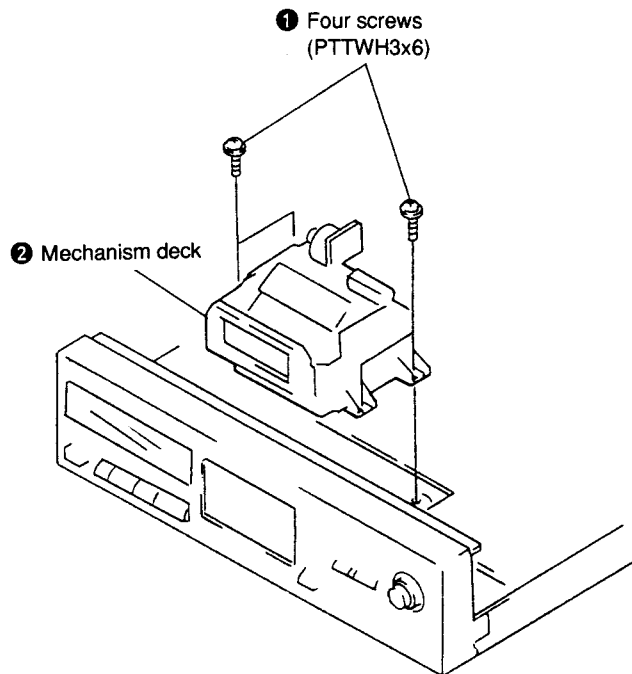
#### 2-1. CASE

Unscrew the four case attachment screws and remove the case.

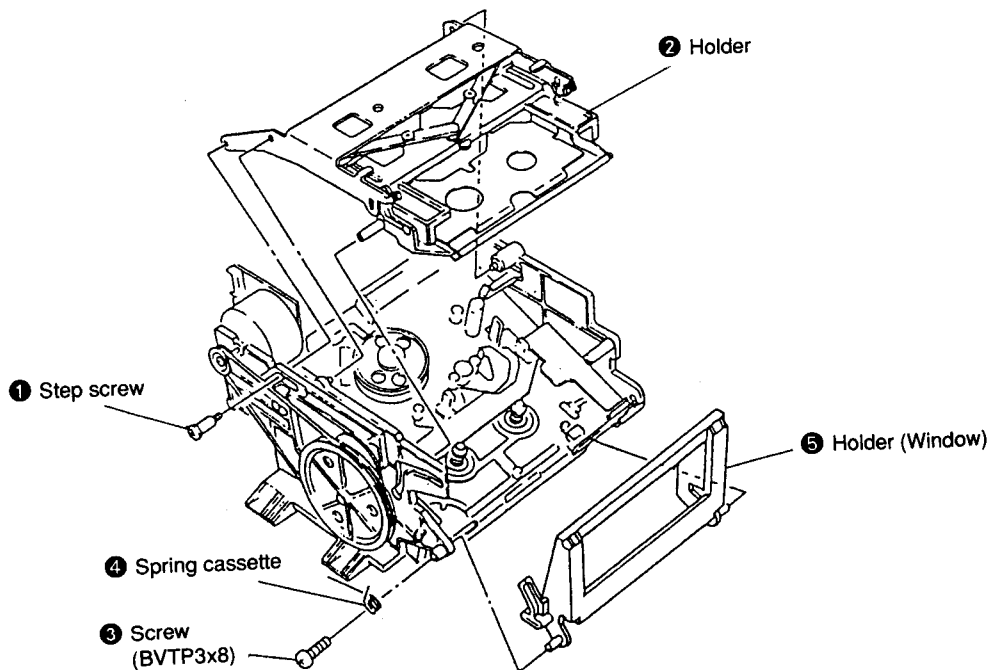
#### 2-2. CASSETTE WINDOW

- ❶ Press the OPEN/CLOSE switch to effect LOADING OUT STATE (if power is not supplied) rotate the pulley in the left side of the Mechanism Deck counterclockwise.)
- ❷ Remove the cassette by lifting the window up.

#### 2-3. MECHANISM DECK

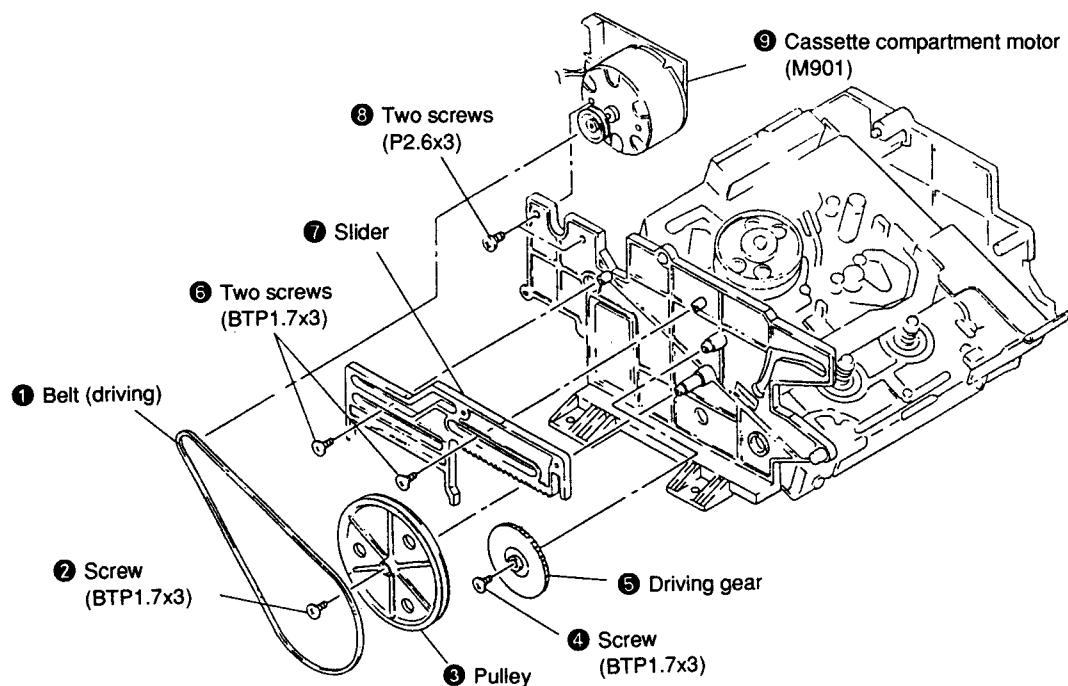


#### 2-4. HOLDER



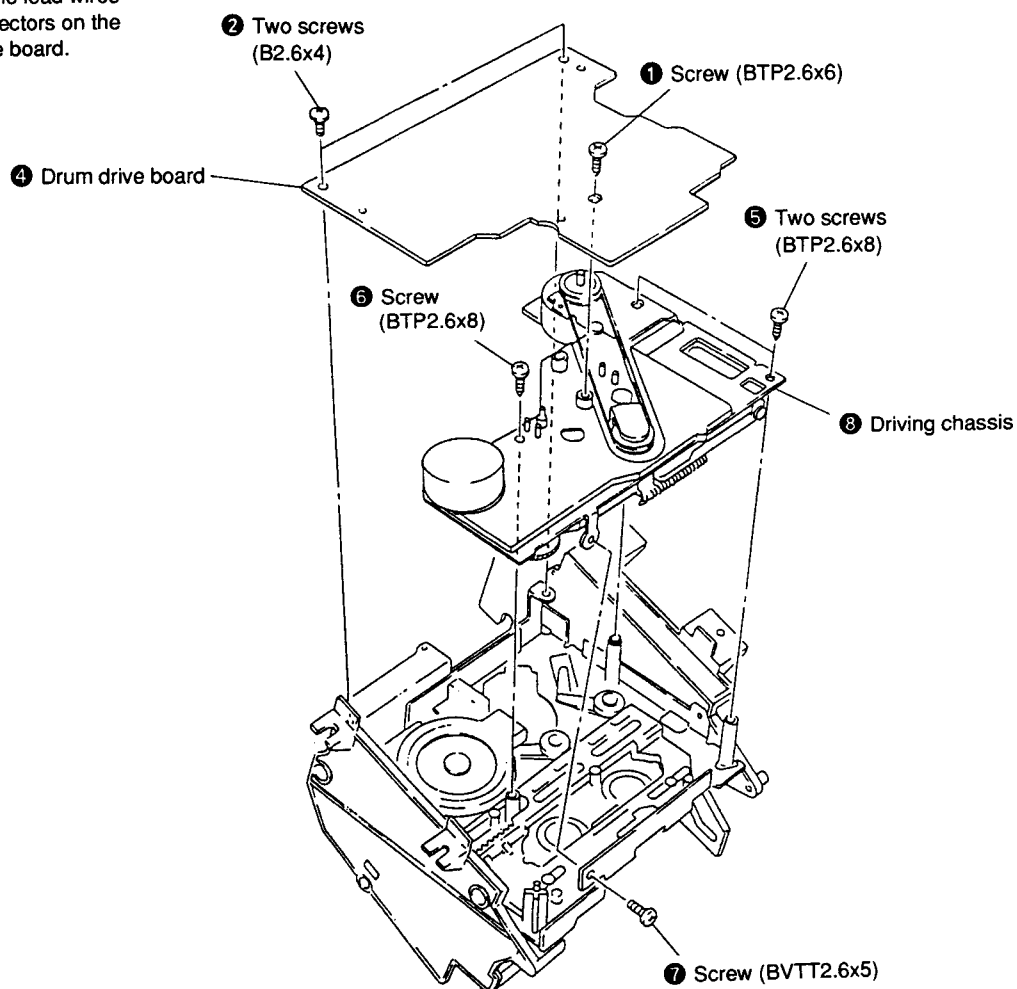


## 2-5. CASSETTE COMPARTMENT MOTOR (M901), PULLEY, DRIVING GEAR AND SLIDER



## 2-6. DRUM DRIVING BOARD AND DRIVING CHASSIS

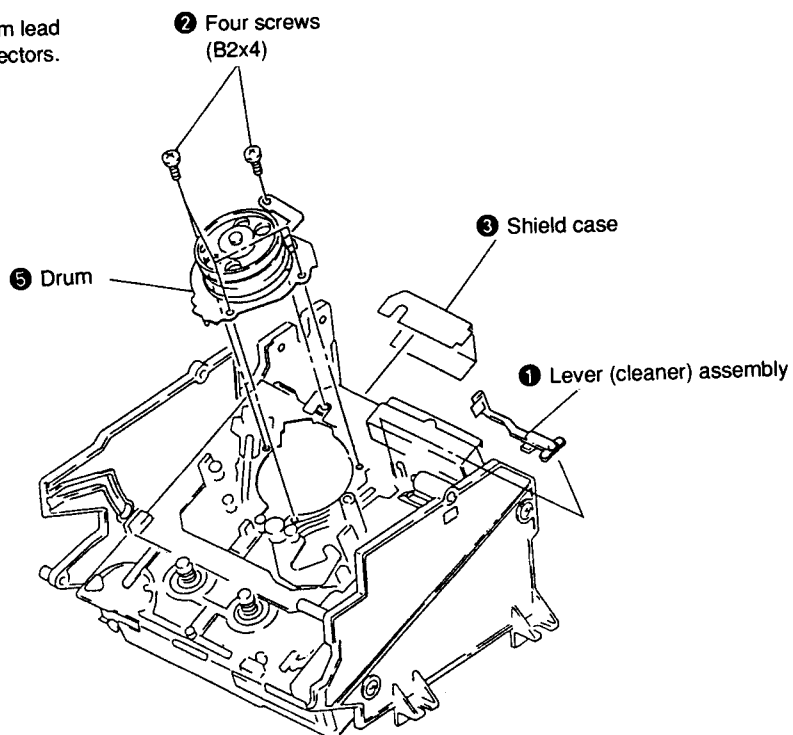
- ③ Remove the lead wires from connectors on the drum drive board.



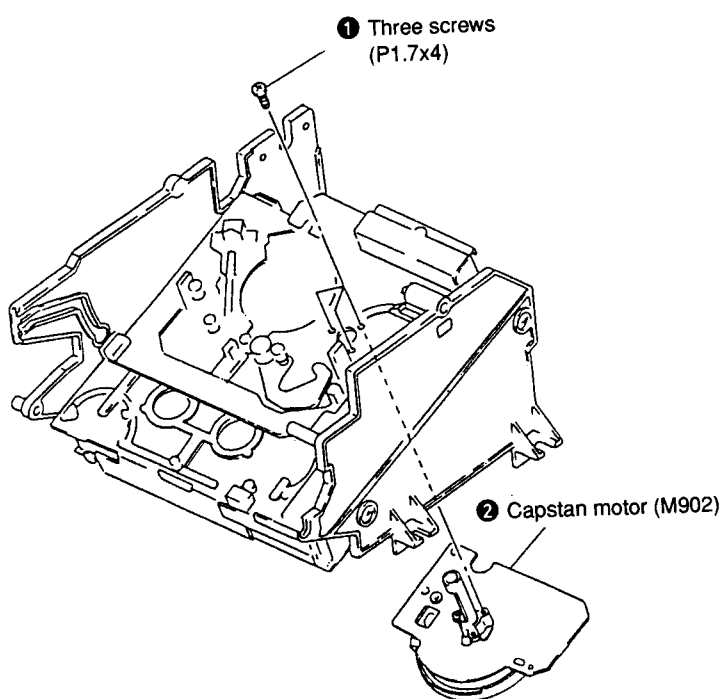


## 2-7. DRUM

- ④ Remove the drum lead wires from connectors.



## 2-8. CAPSTAN MOTOR (M902)





## SECTION 3 ADJUSTMENTS

### Notes When Making Adjustments

1. Adjustments should be performed in the order listed.
2. Use the following test tapes:
 

TY-7111X (8-909-823-00)	Level
TY-7251 (8-909-813-00)	Tracking
TY-7551 (8-909-814-00)	Functions
TY-30B (8-892-358-00)	Blank

Use the following torque meter:

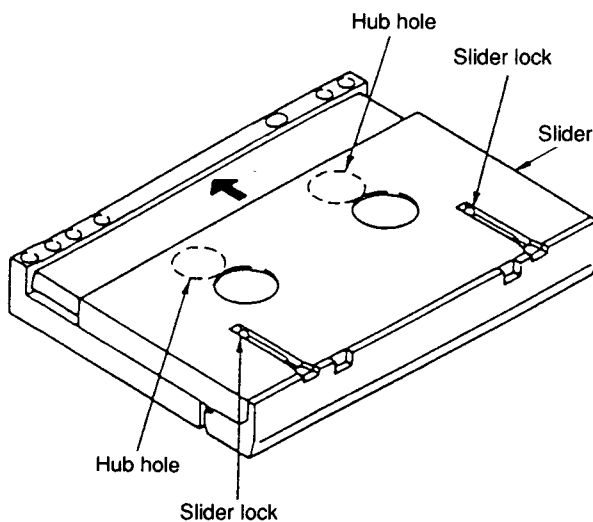
TW-7131 (8-909-708-71) ..... FWD

3. Switches and controls should be set as follows unless otherwise specified.
 

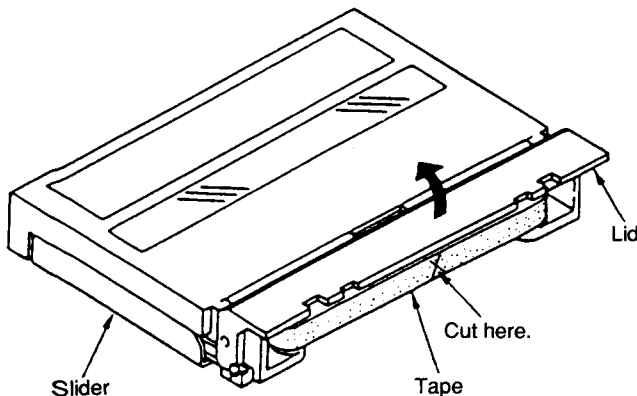
TIMER switch	: OFF
REC MODE switch	: LONG
INPUT switch	: COAXIAL
REC LEVEL control	: Min.
PHONES LEVEL control	: Min.

#### 4. Creating an end sensor cassette

- (1) Press the tape slider lock and move the slider in the direction indicated by the arrow.



- (2) Open the lid and cut the tape.



- (3) Turn the hubs until the tape is completely inside the cassette (both T and S sides).  
The end sensor cassette for end sensor adjustment is now ready for use.

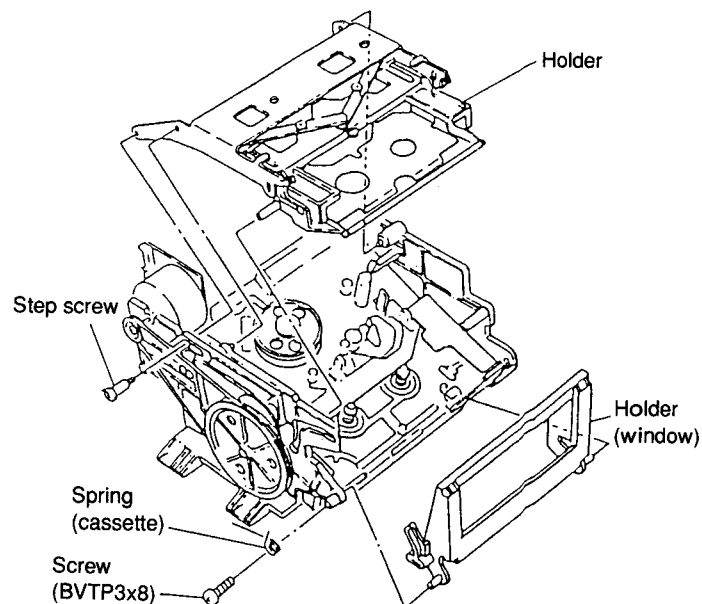
#### 5. Cleaning of the Revolving Drum

- (1) Fold a chamois (2-034-697-00) or a knit cloth into 4 or more files, slightly impregnate it with a cleaning liquid (9-919-573-00), and softly touch the drum with it and manually rotate the drum slowly counterclockwise by 2 to 3 turns for cleaning.
- (2) At that time, be careful not to move the chamois vertically to the head tip. Otherwise, the head tip may probably be damaged.

6. Be careful not to move RV1 and RV2 on the RF AMP board in the mechanism assembly.

7. To adjust the tape path and guides, remove the holder assembly as shown in the diagram and use the DAT holder jig (J-8000-002-A). This will make it easier to perform adjustments.

- First turning the pulley counterclockwise to put it in loading out status will make removal and reattachment of the holder assembly easier.
- To perform adjustments, turn the pulley clockwise to put it in loading in status, load the cassette tape and set the IN switch to the ON position.



#### 8. Test Mode

- (1) Test mode (main)

To set the test mode, short-circuit TP (X TEST) and GND of the main board. (At this time, the dB display of the FL display level meter will blink.)

Perform the following adjustments in the test mode.

- FWD torque adjustment
- FWD back tension check
- Tape path fine adjustments
- DPG adjustment
- AGC voltage check
- End sensor check



(2) Test mode (display)

**Setting :**

TIMER switch : Center click  
 INPUT switch : Center click  
 REC MODE switch : Center click

- 1) Disconnect CN901 and CN902 of the main board after turning off the power supply.
- 2) Short-circuit the testland (TEST) and GND of the display (A) board.
- 3) To check the FL display, insert CN901 and CN902 and turn on the power.

Each grid of the FL display tube sequentially lights up while all tubes being lighted up finally.



Level meters go out one after one.



When all the level meter go off, the NEXT RMC will be displayed.



When the PLAY(▶) key of the DAT remote control is pressed, the display other than the level meter lights up and the NEXT KE 4 will be displayed next.



Every time the panel switch is operated, one level meter light up.



When all switches have been operated, all the level meters go off and KEY OK will be displayed.

- To reset the test mode, disconnect the wire shorting TP (X TEST, TEST) and GND. After completion of adjusting, be sure to reset the test mode.

9. Check the following items for correct tape speed, after completion of adjusting.

- (1) Set the REC MODE switch to 48k and check for normal recording and playback. (x1)
- (2) Set the REC MODE switch to LONG and check for normal recording and playback. (x0.5)
- (3) With QUE (▶+▶▶) or REVIEW (▶+◀◀), check that qurrr, qurrr sound is heard. (x3, x8)
- (4) Check that correct time is displayed after FF (▶▶) or REV (◀◀). (x16)
- (5) Check that AMS (▶▷◁, ◁◁◁) is normal.

### 3-1. ELECTRICAL ADJUSTMENTS

#### FWD Torque Adjustment

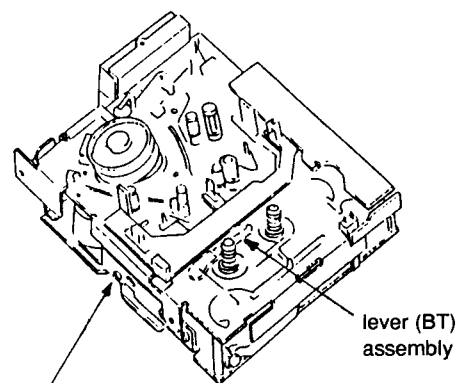
**Procedure :**

1. Set the test mode (main) and load the FWD torque meter TW-7131 (8-909-708-71).
2. Set the PLAY (▶) mode. "TORQUE" will be displayed on the FL tube.
3. Adjust RV451 so that the minimum value of FWD take up torque (take-up side rewinding torque) is between 9 – 10g • cm (0.13 – 0.14 oz • inch). Also, make sure that the maximum reading does not exceed 15g • cm (does not exceed 0.21 oz • inch).
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

#### FWD Back Tension Check

**Procedure :**

1. Set the test mode (main), and attach the FWD torque meter TW-7131 (8-909-708-71).
2. Set the PLAY (▶) mode. "TORQUE" will be displayed on the FL tube.
3. Check the minimum value of the back tension (S side) to be 4.5 to 7.5g • cm (0.06 - 0.1 oz • inch). And check that the difference between the minimum value and the maximum value is less than 5g • cm. (0.07 oz • inch)
4. If the specified values are not satisfied, replace the lever (BT) assembly (X-3363-024-1).



**Note :** Precision screw +P2x2.5

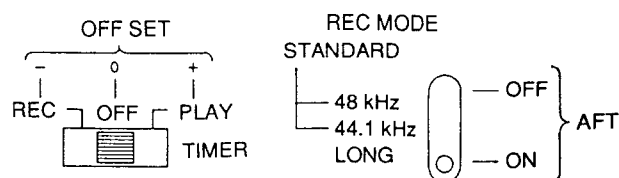
This screw is used in some units. Do not rotate it.

#### Tape Path Fine Adjustments (x1.5 FWD Mode)

Perform the following adjustment when the drum has been replaced.

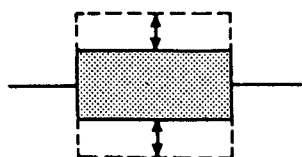
**Procedure :**

1. Connect an oscilloscope CH-1 to TP (PBRF) and CH-2 to TP (SWP) on the main board.
  2. Set the test mode (main) and load test tape TY-7251 (8-909-813-00).
  3. Press the AMS (▶▷◁) key. "DPG" will be displayed on the FL tube.
- Each part of switches on Test Mode.



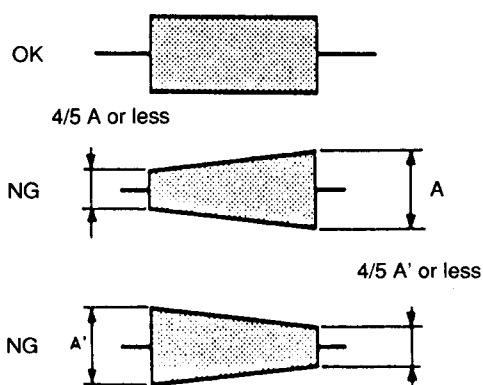


4. With the REC MODE switch set to 48k (ATF: OFF) and the TIMER switch set to PLAY or REC (OFFSET: + or -), fine adjust the S1 and T1 guides so that the oscilloscope RF signal waveform remains the same when high-low is repeated.

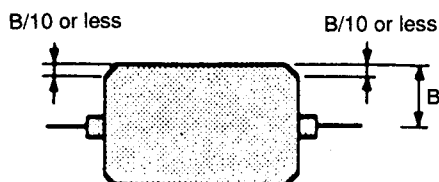


\* Finish the adjustment by screwing in.

5. Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the TIMER switch set to PLAY or REC (OFFSET: + or -).



6. Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the TIMER switch set to OFF (OFFSET: 0).
  - (1) Confirm that the RF signal waveform peak value (B) is 60 mV or more.
  - (2) Confirm that the undershoot level of the RF signal waveform's flat portion is within 10%.



7. When the measured values are not within the above tolerance repeat items 3 - 6 above.

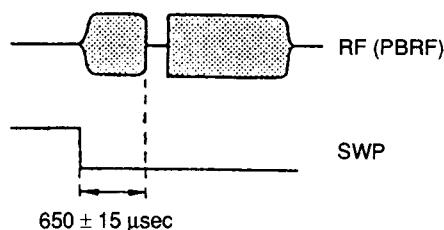
**Adjustment Point :** mechanism assembly

## DPG Adjustment

Perform the following adjustment without fail when the drum has been replaced.

### Procedure :

1. Connect oscilloscope CH-1 to TP (PBRF) and CH-2 to TP (SWP) on the main board. (Use CH-2 as the trigger. When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)
2. Set the test mode (main) and load test tape TY-7251 (8-909-822-00).
3. Set the REC MODE switch to 48k (ATF: ON) and the TIMER switch to OFF (OFFSET: 0).
4. Press the AMS ( $\triangleright \triangleright \triangleright$ ) key. "DPG" will be displayed on the FL tube.
5. Press the  $\blacktriangleleft$  and  $\blacktriangleright$  keys as appropriate so that the gap between the oscilloscope SWP and RF signals become  $650 \pm 15 \mu\text{sec}$ . (Hold the  $\blacktriangleleft$  and  $\blacktriangleright$  keys down for more than 1 second to perform rough adjustment. Hold them down for approximately 0.2 seconds for fine adjustment, and the auto adjustment can be performed pressing  $\triangleright$  key.

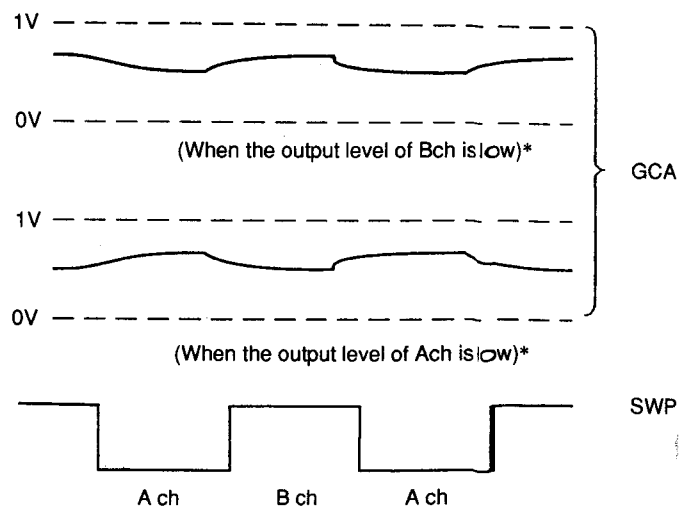


## AGC Voltage Check

Perform this adjustment after cleaning the heads with a cleaning cassette.

### Procedure :

1. Connect oscilloscope CH-1 to TP (GCA: Gain Control Amp.) and CH-2 to TP (SWP) on the main board. (When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)
2. Set the test mode (main) and load test tape TY-7111X (8-909-823-00).
3. Set the PLAY ( $\blacktriangleright$ ) mode and check that the GCA waveform on the oscilloscope is as follows.



\* Slightly changes depending on the state of the head. NG if the GCA waveform is 1V or more or equal to the GND level.

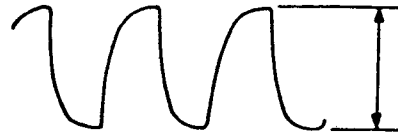


## End Sensor Check

Perform the following adjustment when the holder has been removed or part of the mechanism deck section replaced.

### Procedure :

1. Connect an oscilloscope to the test land SE (in the S side) and TE (in the T side) of the main board.
2. Set the test mode (main), mount an end sensor cassette and effect the STOP (■) mode.
3. Check that p-p values of waveform of the oscilloscope satisfy the following.

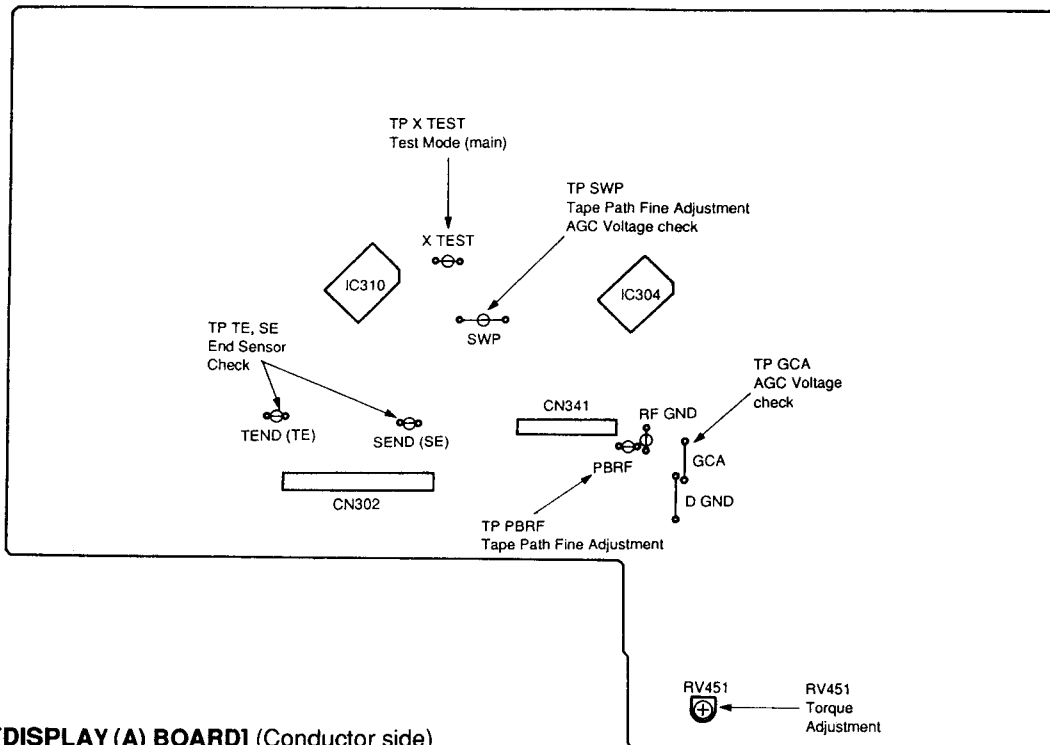


In the S side: 300 mVp-p or more

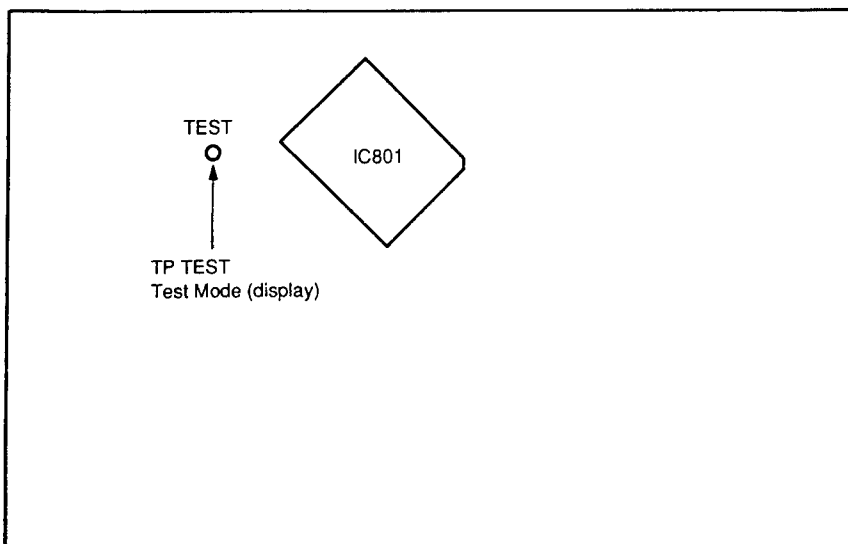
In the T side: 150 mVp-p or more

### Adjustment Location :

**[MAIN BOARD]** (Component side)



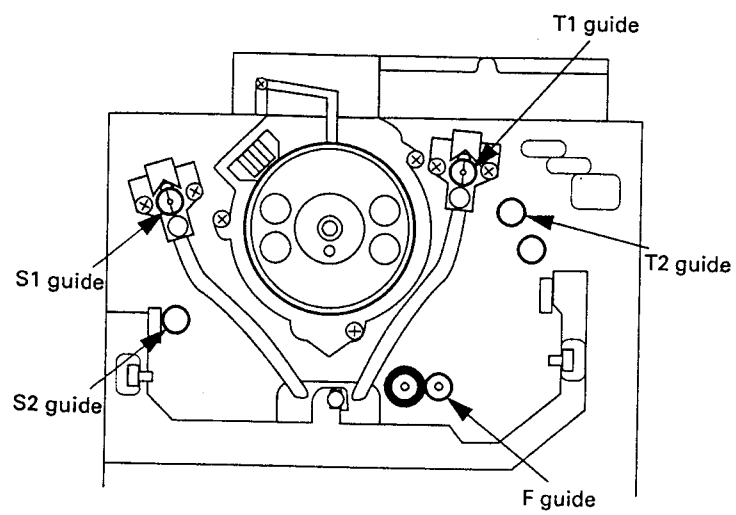
**[DISPLAY (A) BOARD]** (Conductor side)





Adjustment Location :

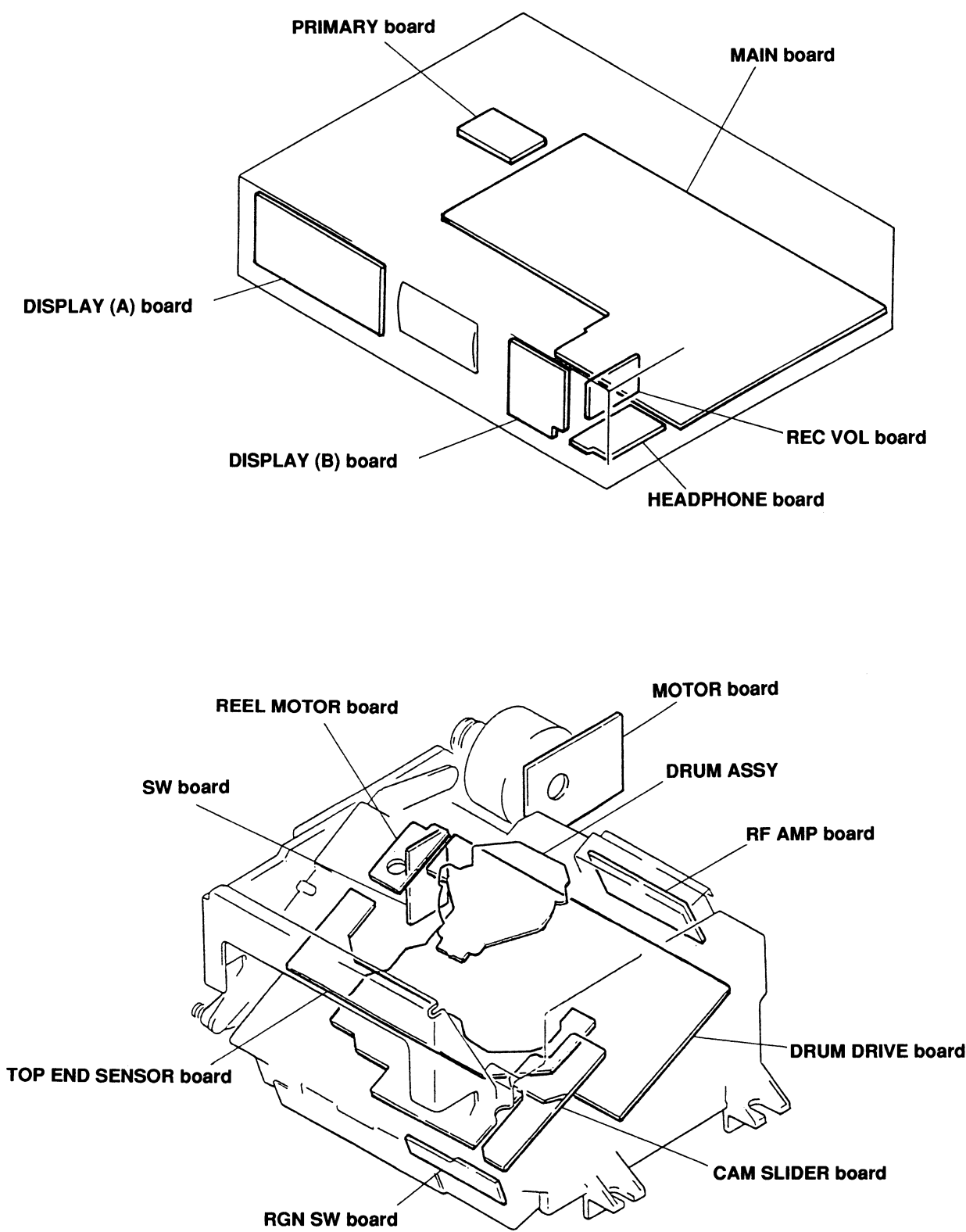
— Mechanism assembly —



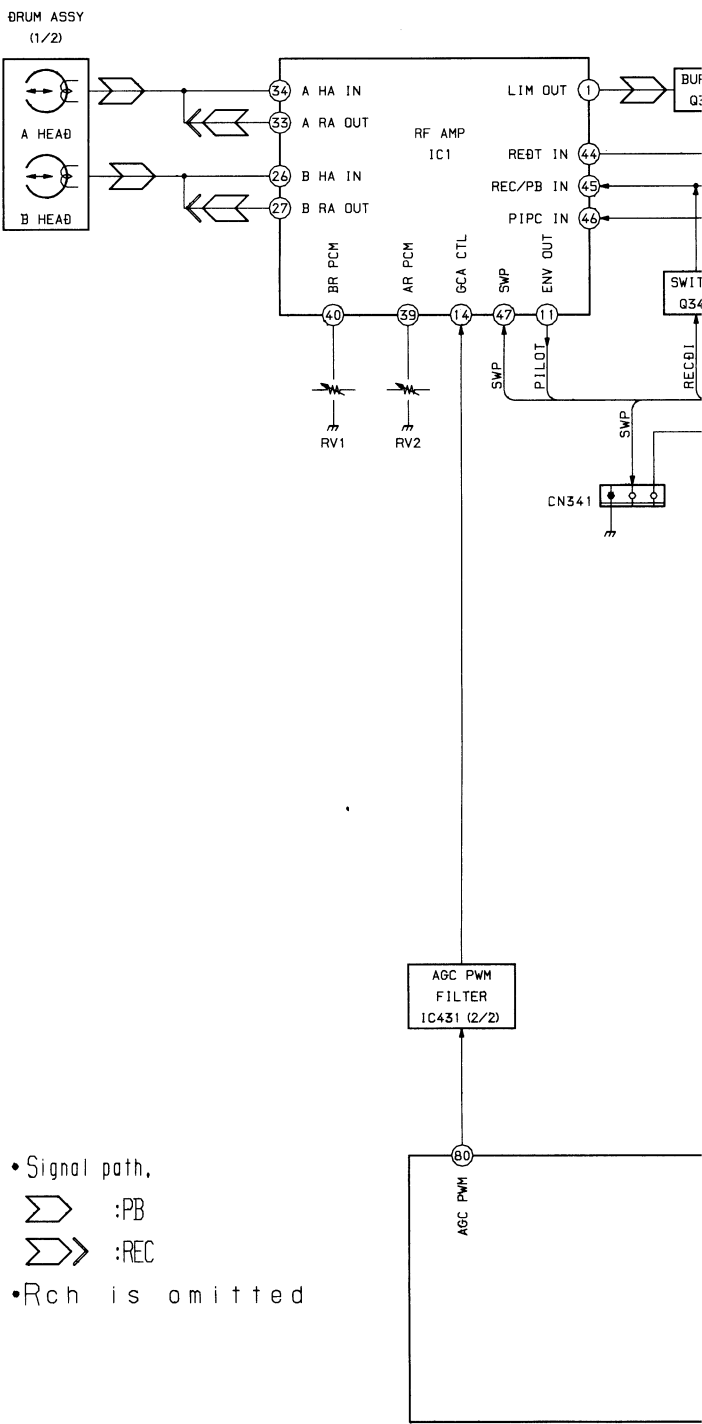


# SECTION 4 DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION



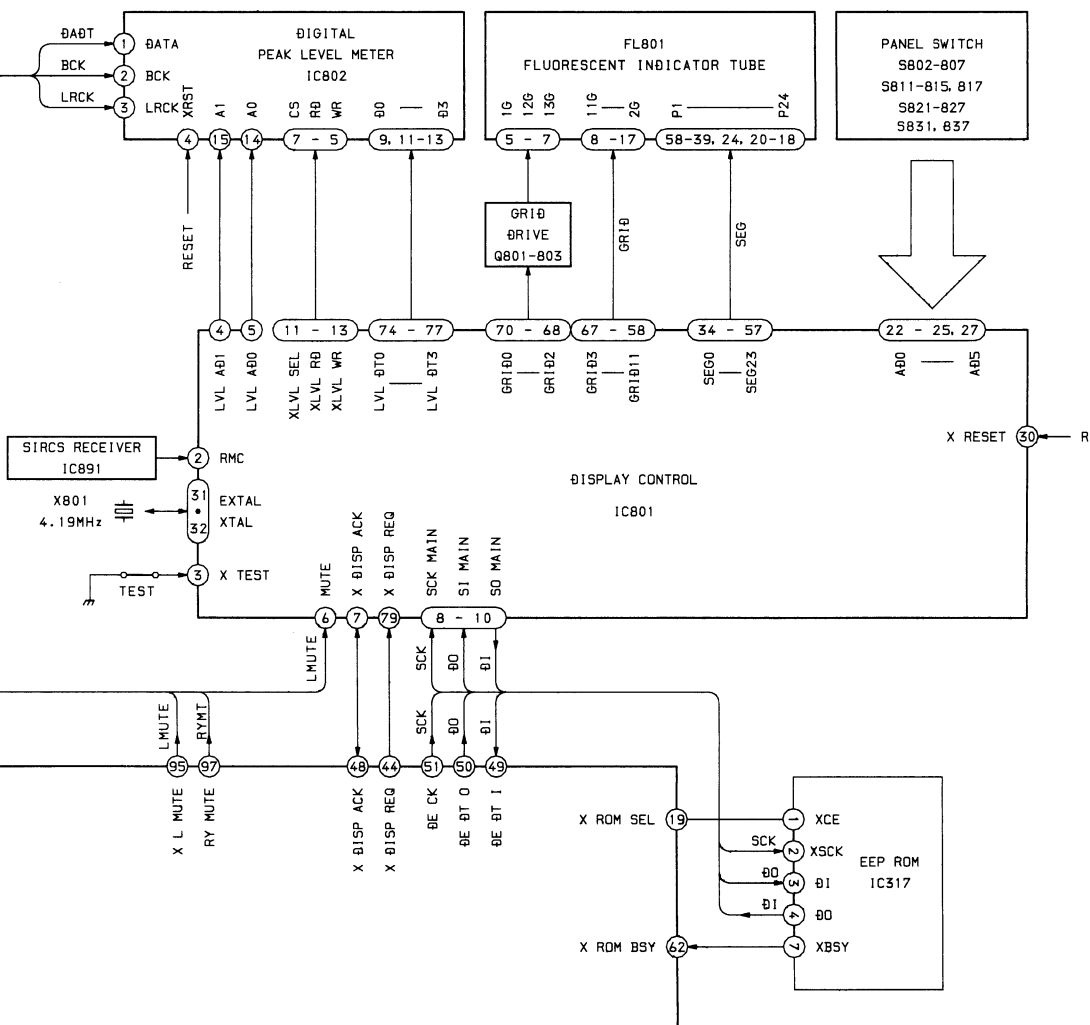
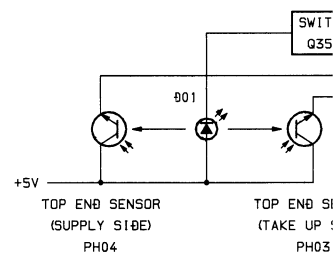
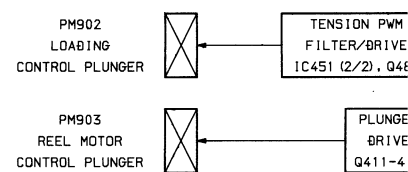
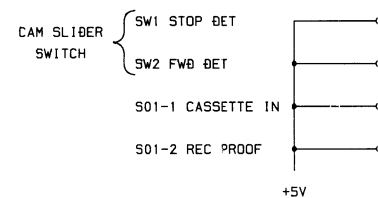
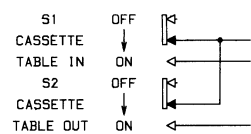
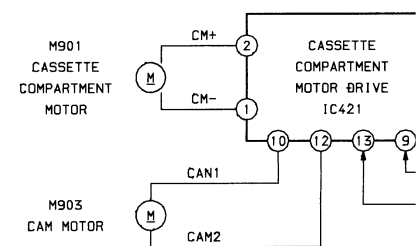
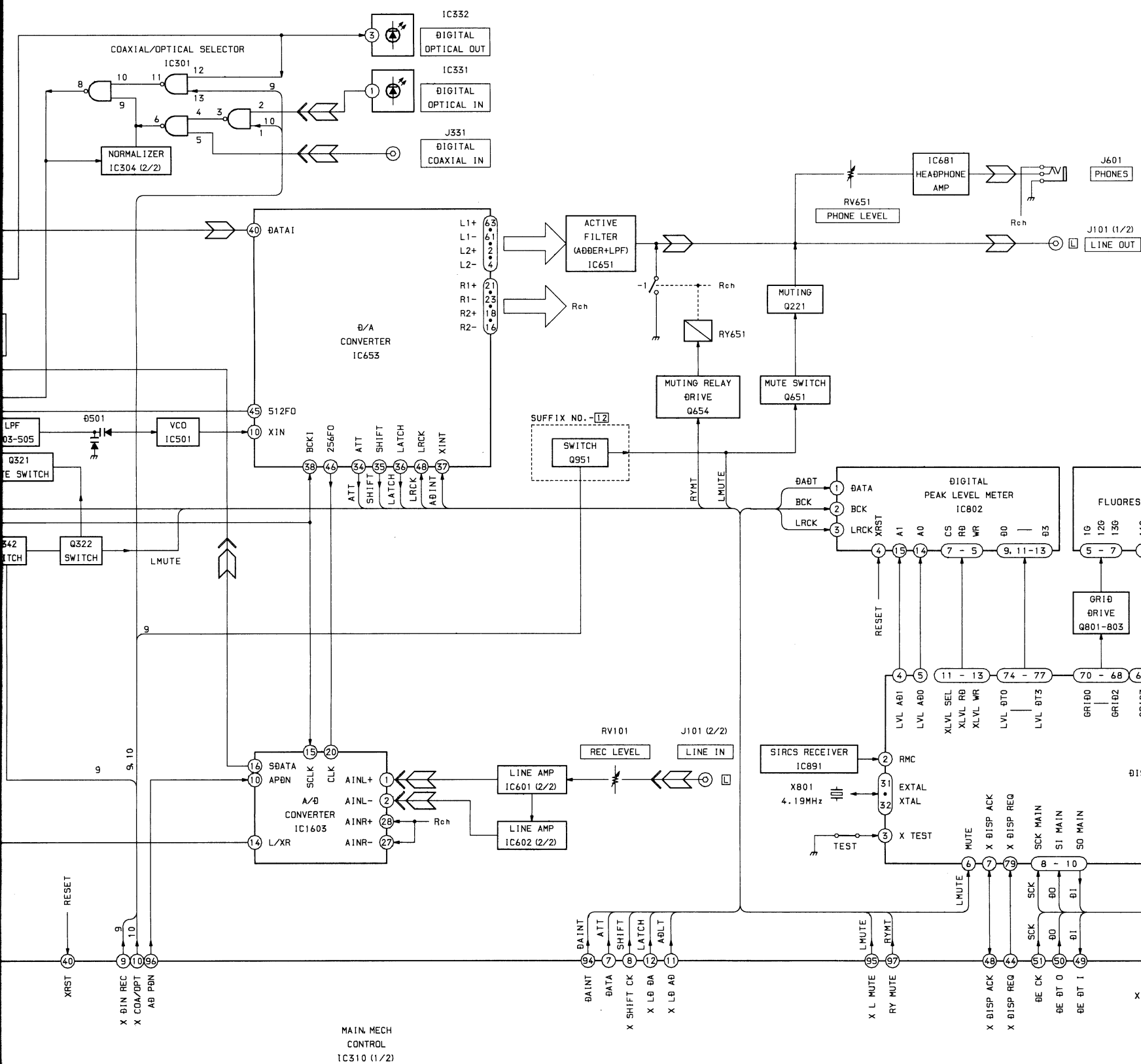
4-2. BLOCK DIAGRAM



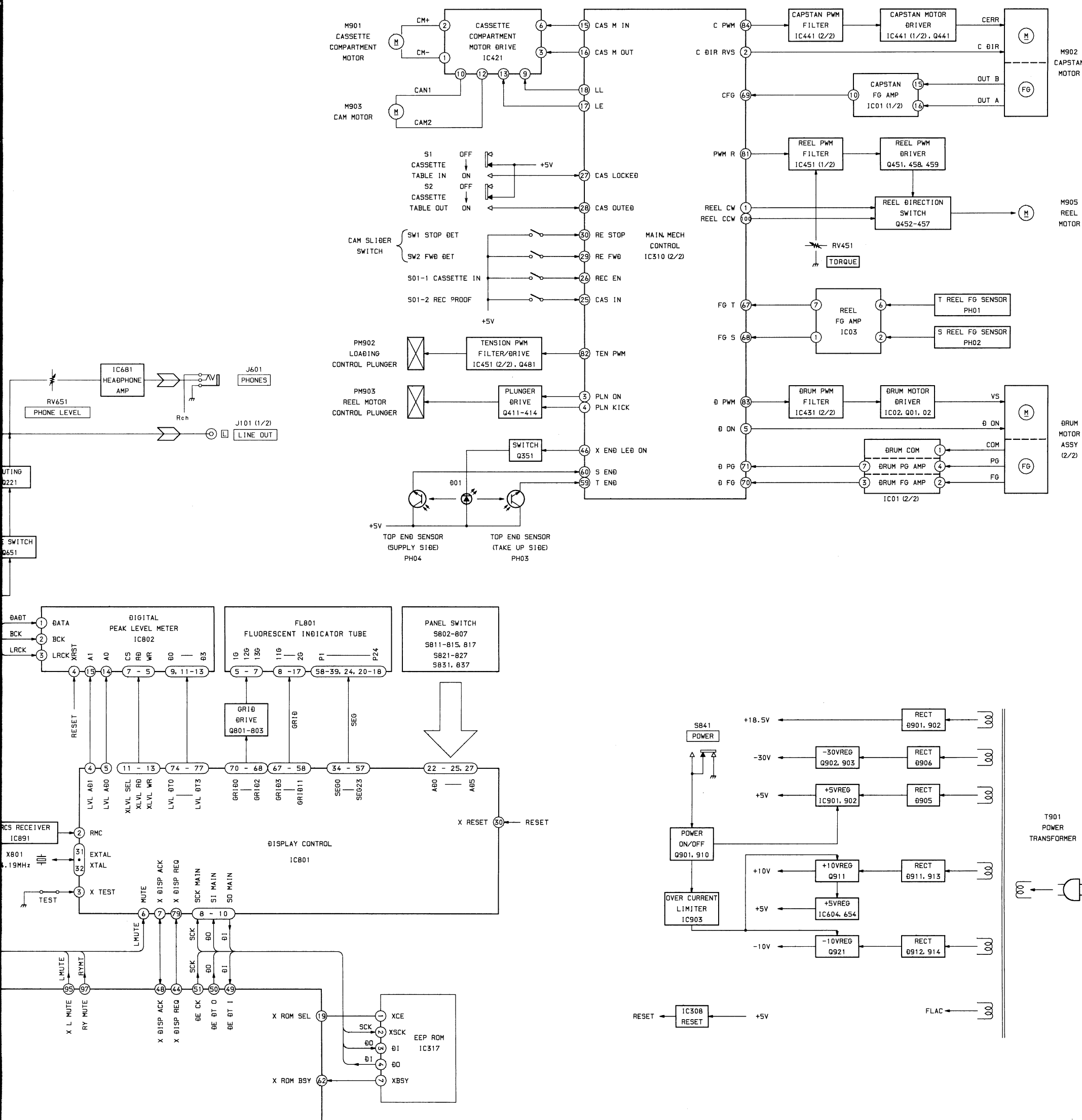




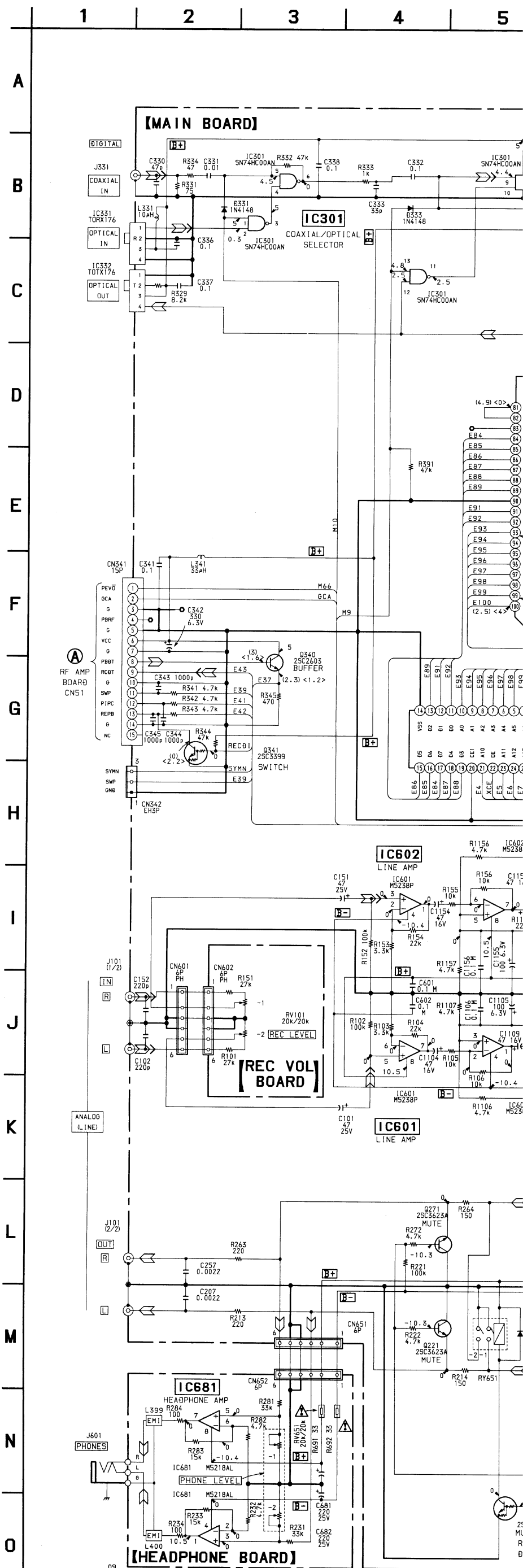
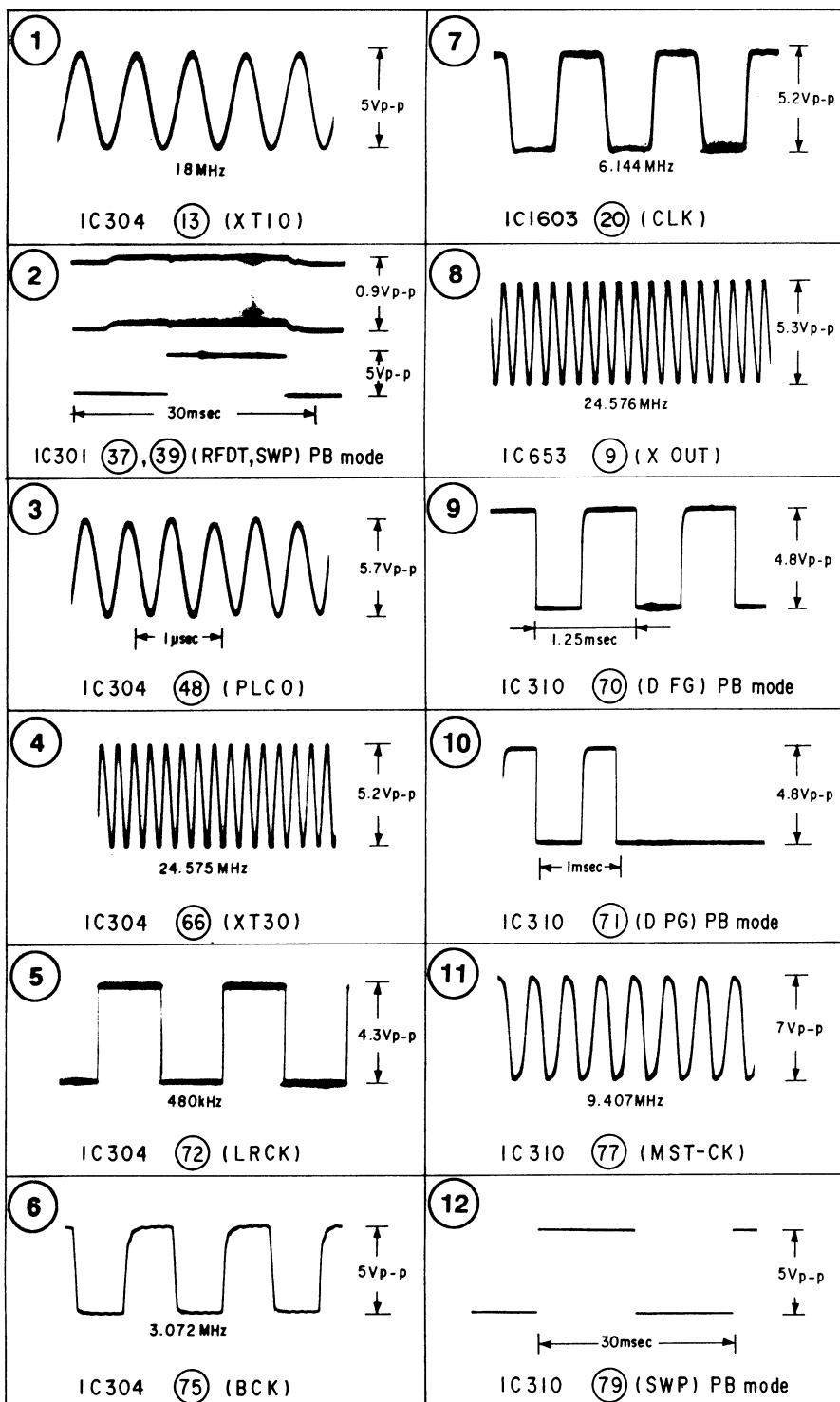








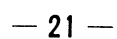




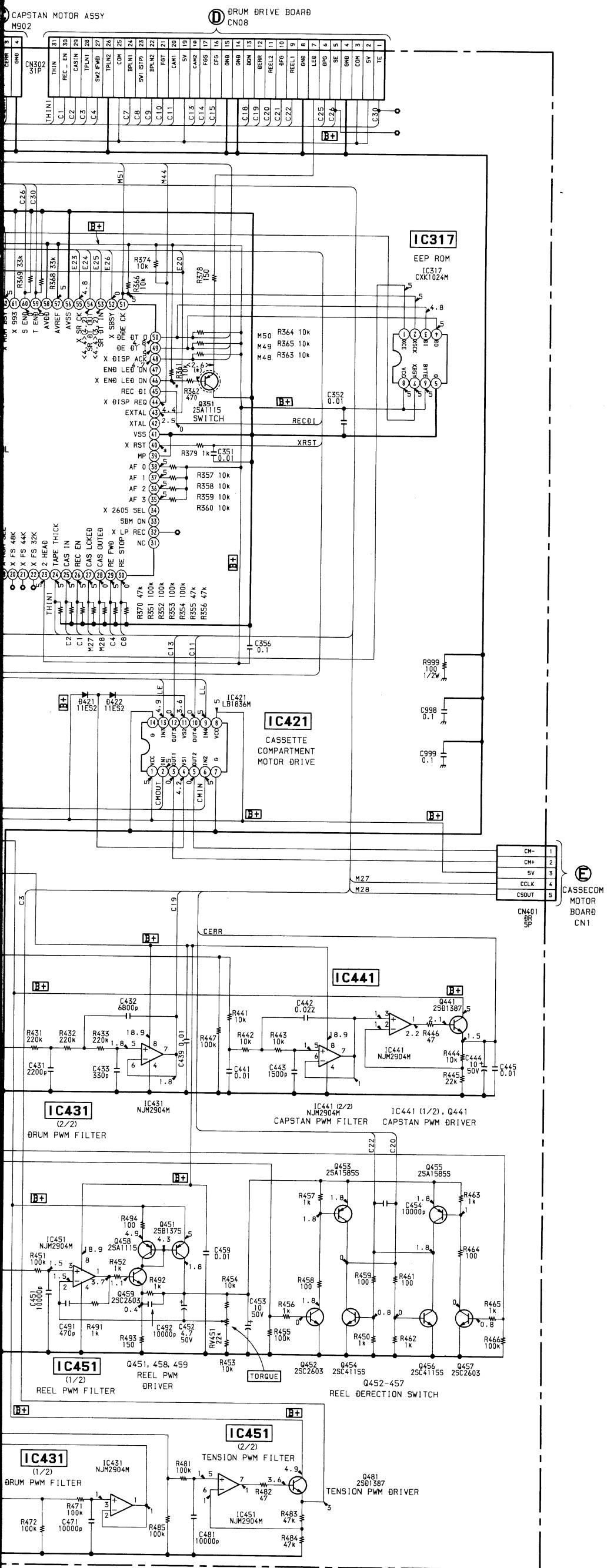












NOTE

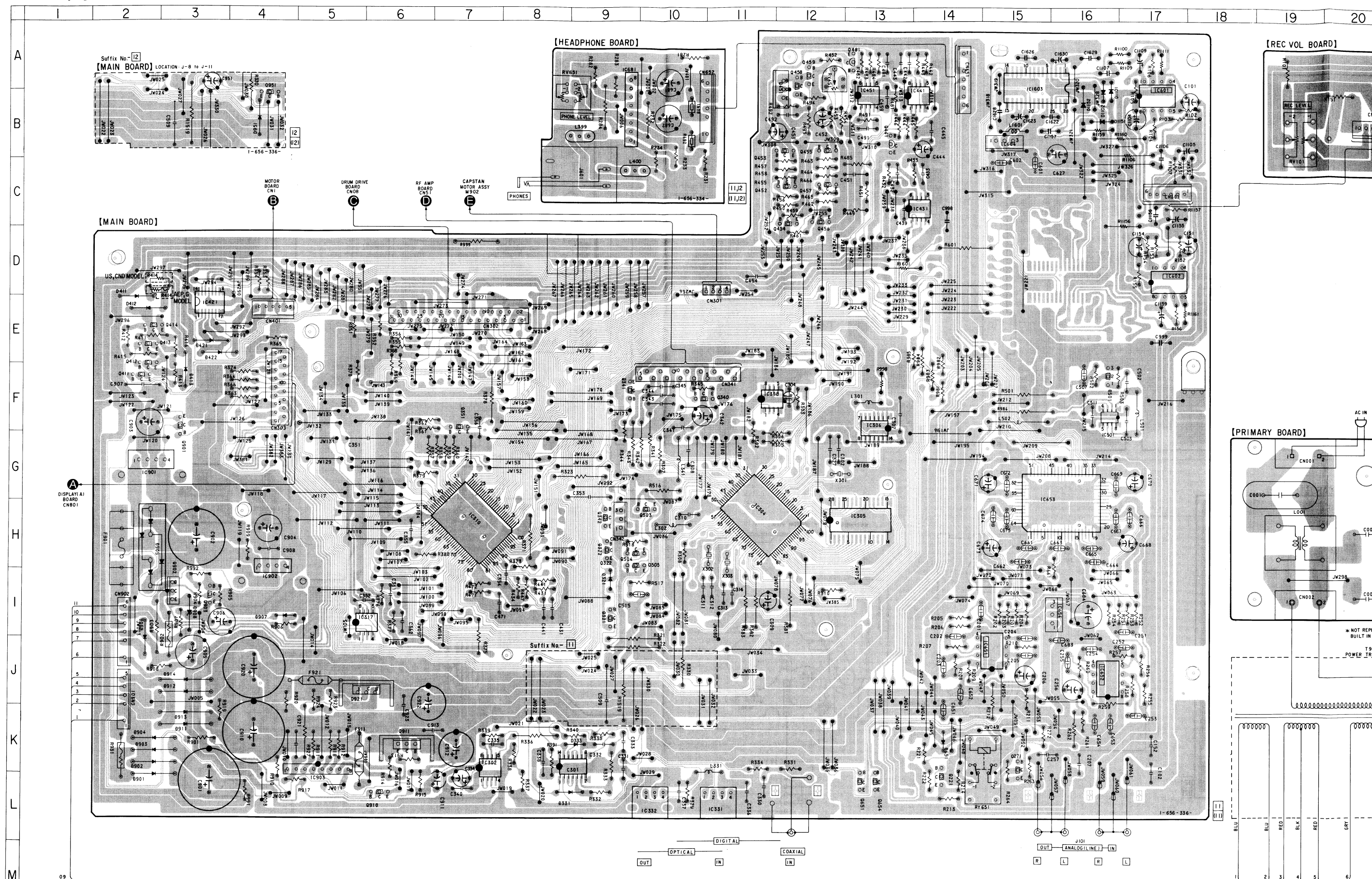
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}:\mu\text{F}$
- 50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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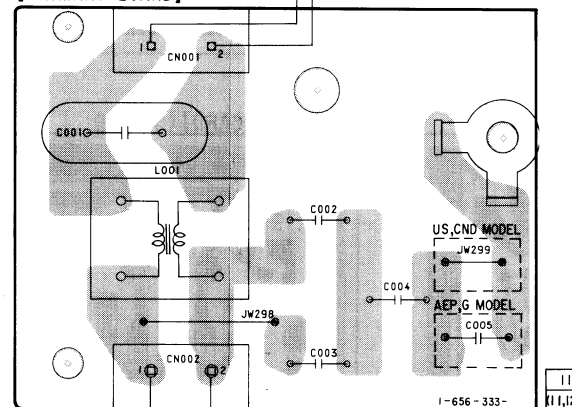
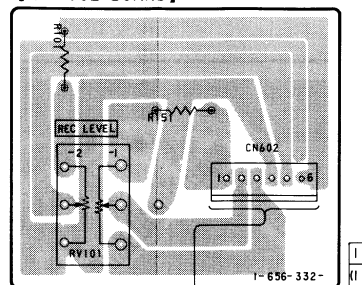
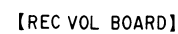
- : B+ Line.
- : B- Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark: PB / REC
- ( ) : PB
- < : REC
- \* : can not be measured.
- Voltages are taken with a VOM (Input impedance  $10\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Abbreviation  
CND: Canadian model.  
G : German model.
- Signal path.  
 : PB  
 : REC



**4-4. PRINTED WIRING BOARD — MAIN SECTION —**  
• See page 13 for Circuit Boards Location.

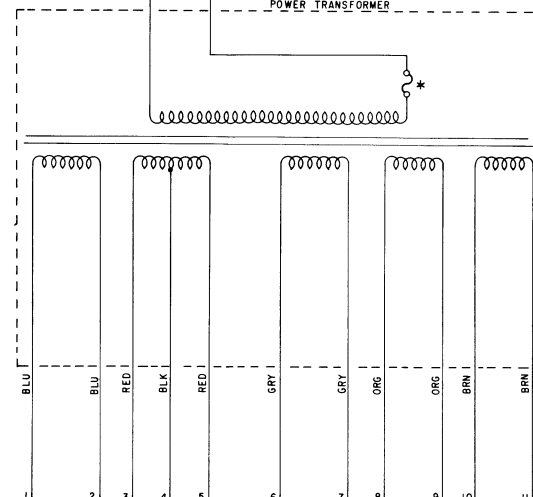








\* NOT REPLACEBLE  
BUILT IN TRANSFORMER

T901  
POWER TRANSFORMER



Ref. No.	Location	Ref. No.	Location
D321	I-9	IC651	J-15
D331	L-8	IC652	J-16
D333	K-8	IC653	H-16
D411	E-2	IC654	I-16
D412	E-2	IC681	A-9
D413	F-3	IC901	G-2
D421	E-3	IC902	I-4
D422	E-3	IC903	K-5
D501	F-16	IC1603	A-15
D651	K-14		
D901	L-2	Q221	K-14
D902	K-2	Q271	K-15
D903	K-2	Q321	I-10
D904	K-2	Q322	H-9
D905	H-2	Q340	F-10
D906	I-2	Q341	F-9
D907	I-4	Q342	H-9
D908	I-3	Q351	F-7
D911	K-3	Q411	F-2
D912	J-3	Q412	E-2
D913	K-3	Q413	E-2
D914	J-3	Q414	E-2
D951	B-4	Q441	B-13
D1101	A-16	Q451	A-12
D1102	B-16	Q452	C-12
D1151	B-16	Q453	B-12
D1152	B-16	Q454	C-12
		Q455	B-12
IC301	K-8	Q456	C-12
IC302	K-7	Q457	C-12
IC304	H-11	Q458	A-12
IC305	H-13	Q459	A-12
IC306	F-13	Q481	A-13
IC308	F-11	Q503	H-9
IC310	H-7	Q504	H-9
IC317	I-5	Q505	H-10
IC331	L-11	Q651	L-13
IC332	L-10	Q654	L-13
IC421	E-3	Q901	G-3
IC431	C-14	Q902	I-3
IC441	B-14	Q903	I-3
IC451	B-13	Q910	L-6
IC501	F-16	Q911	K-6
IC601	B-17	Q921	J-5
IC602	D-17	Q951	A-4
IC604	B-15		

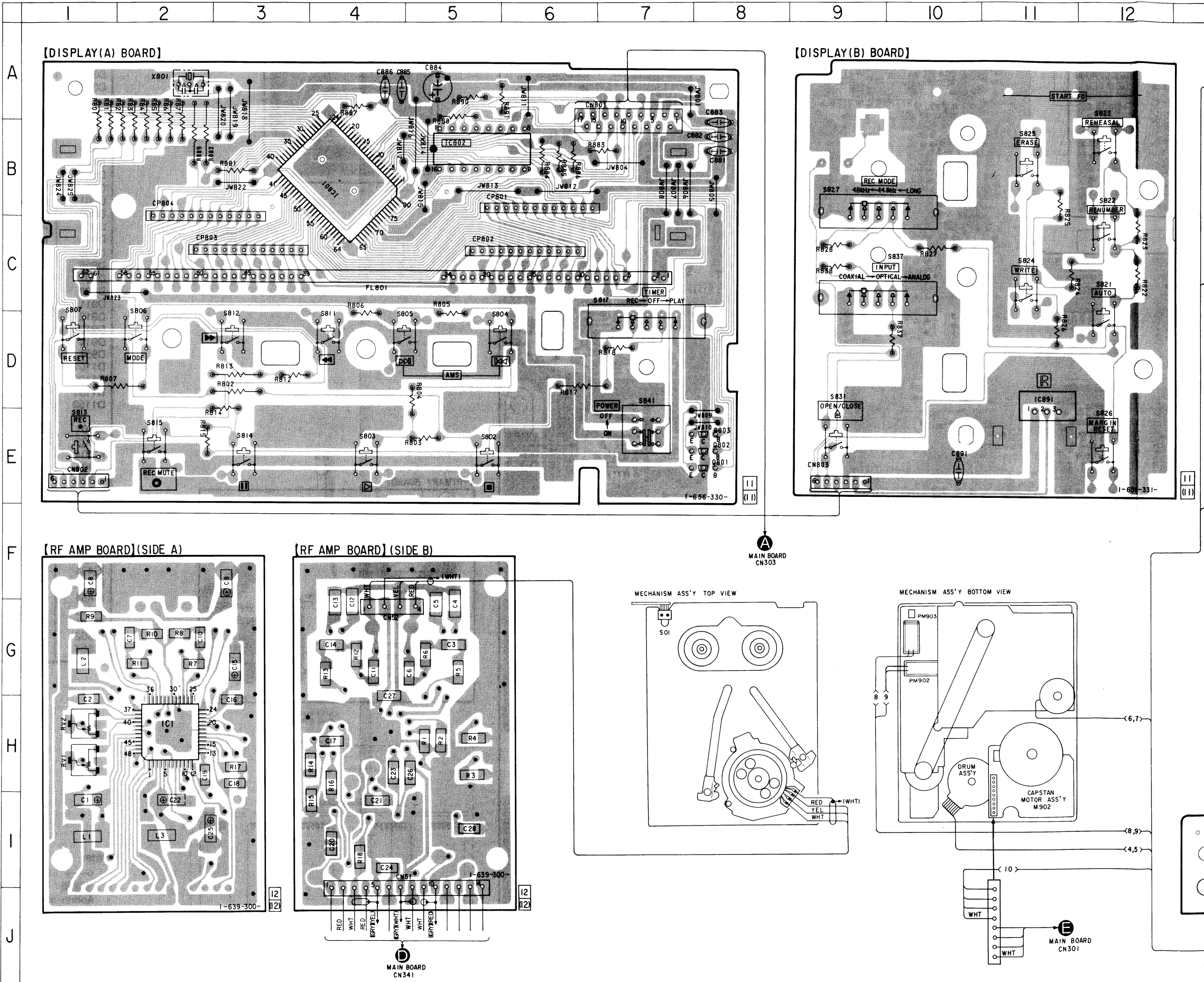
-  : parts extracted from the component side.
-  : Pattern from the side which enable seeing.
- Abbreviations.  
 CND : Canadian model.  
 G : German model.



4-5. PRINTED WIRING BOARD — DISPLAY, MD SECTION —  
• See page 13 for Circuit Boards Location.

Semiconductor  
Location

Ref. No.	Location
D1	B-15
IC1	H-2
IC01	H-16
IC02	H-14
IC03	G-14
IC801	B-4
IC802	B-5
IC891	D-11
Q01	H-15
Q02	H-15
Q801	E-8
Q802	E-8
Q803	E-8



Note:

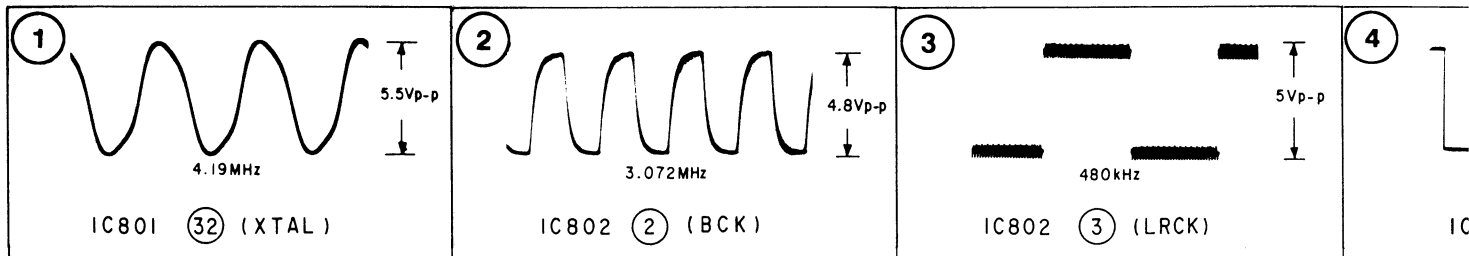
- : parts extracted from the component side.
- : Through hole.
- △ : internal component.
- : Pattern from the side which enable seeing.  
(The other layer's patterns are not indicated.)





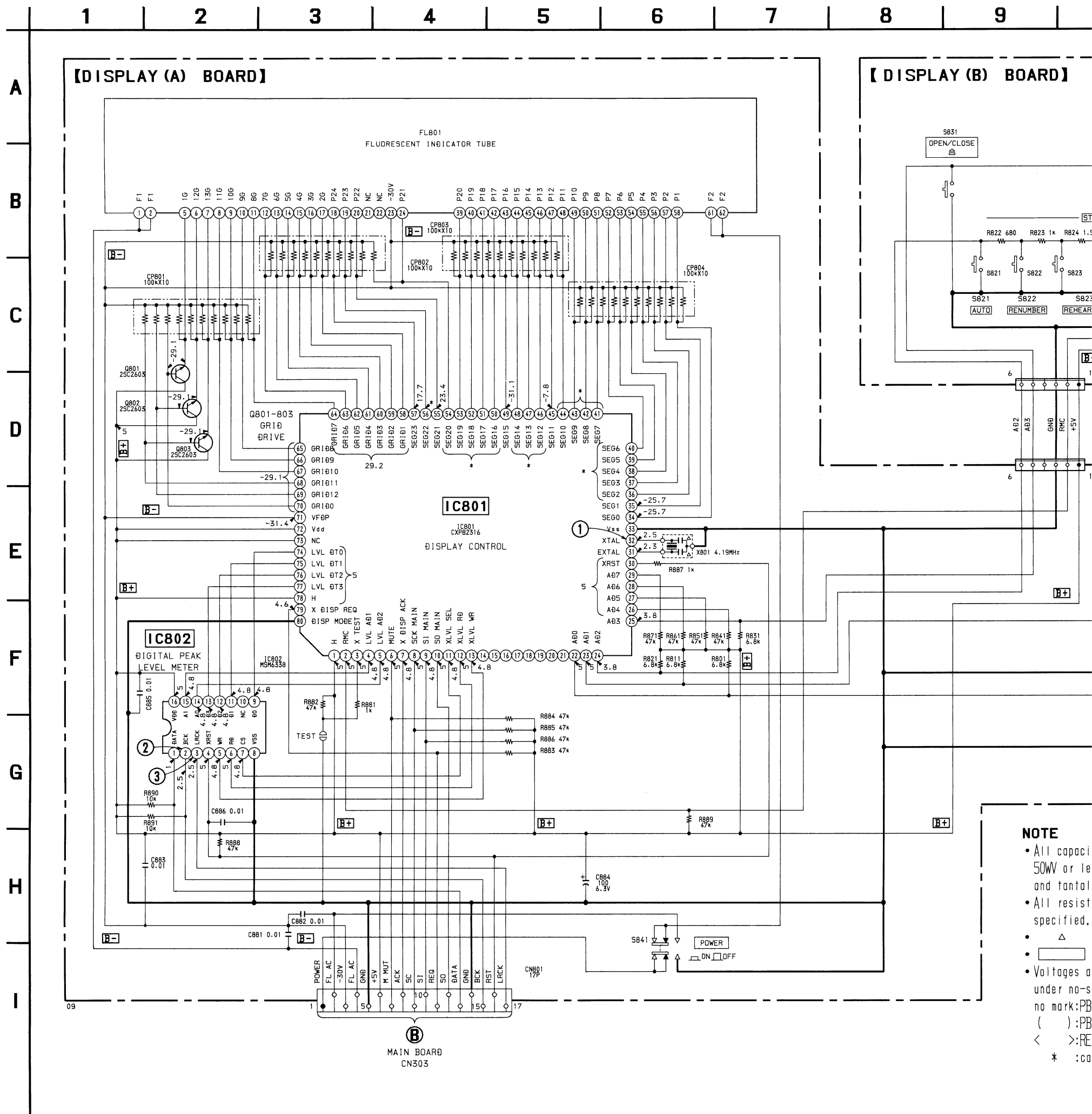


• Waveforms



4-6. SCHEMATIC DIAGRAM — DISPLAY, MD SECTION —

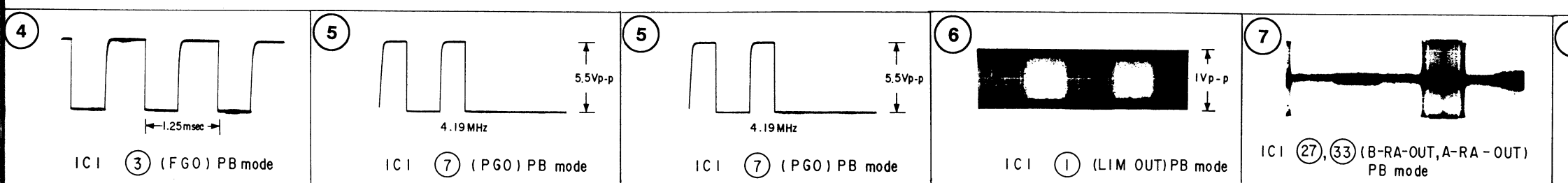
- See page 33 for IC Block Diagrams.
- See page 40 for IC Pin Functions. (IC801, 802)



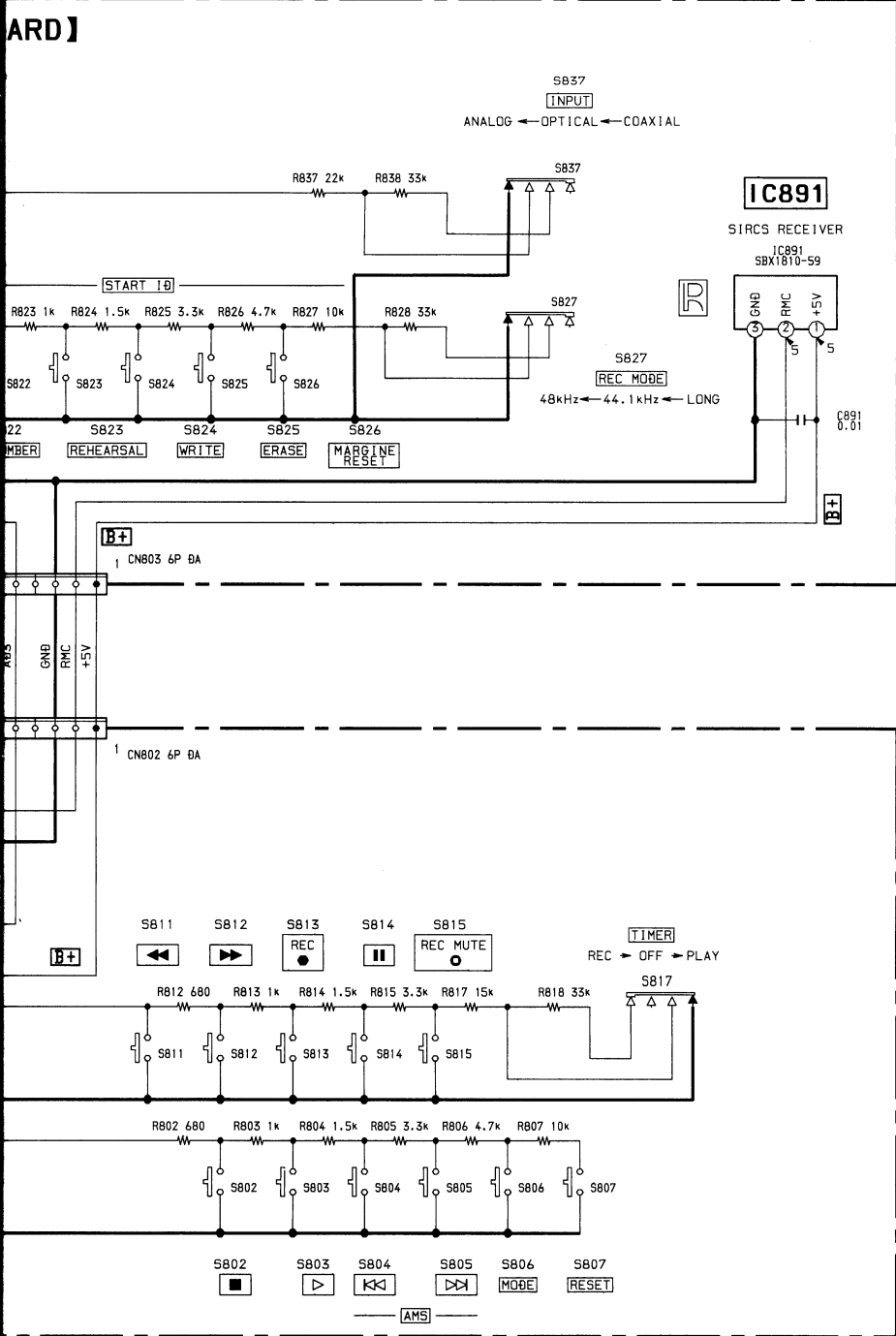
NOTE

- All capacitors are 50W or less and tantalum.
- All resistors are specified.
- $\Delta$  : PB
- $\square$  : PB
- Voltages are under no-signal condition.
- ( ) : PB
- < > : RE
- \* : CO





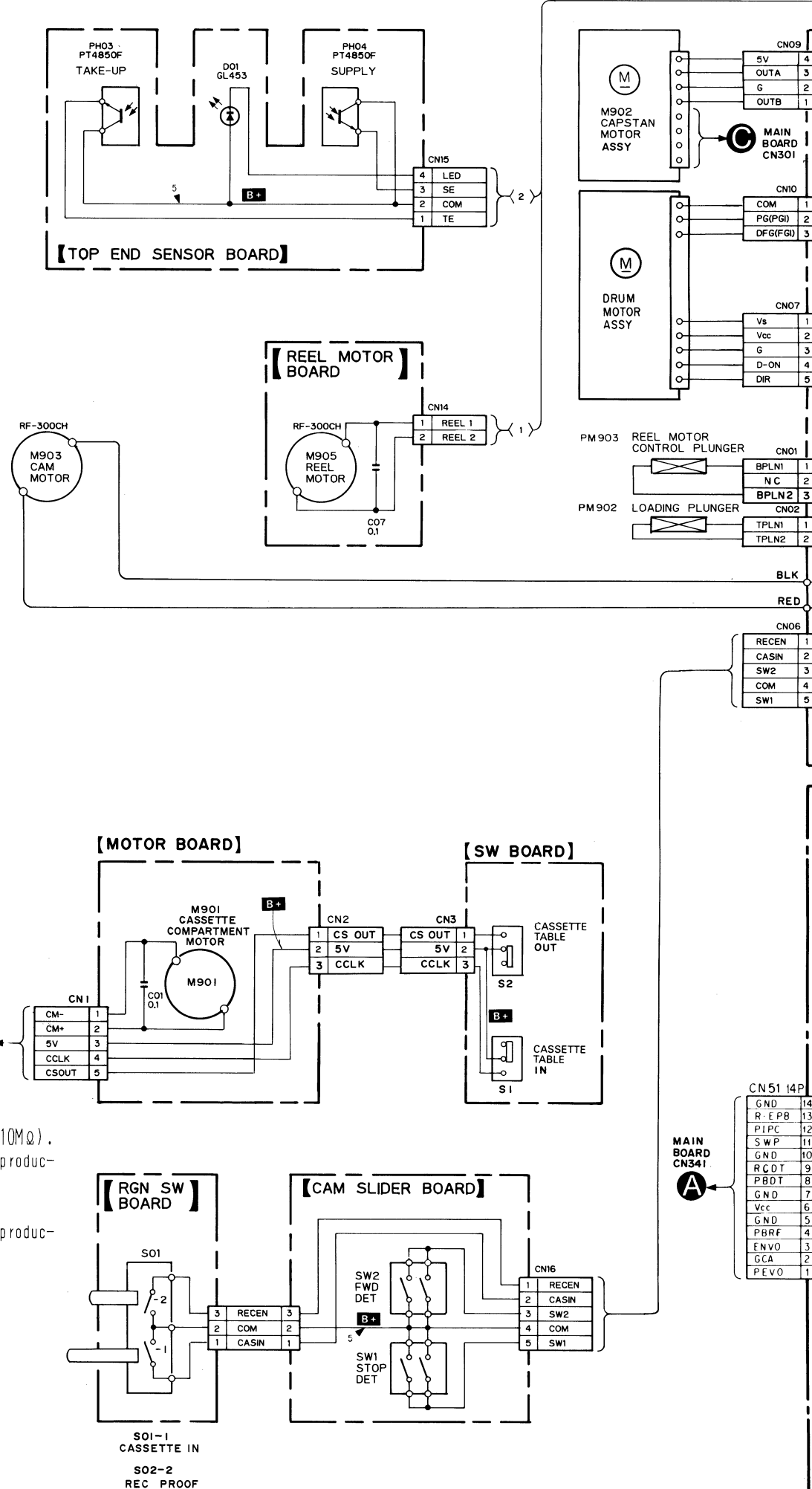
10 11 12 13 14 15 16 17 18 19



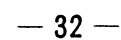
# NOTE

- All capacitors are in  $\mu\text{F}$  unless otherwise noted, pF:  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- $\Delta$ : internal component.
- $\square$ : panel designation.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark: PB / REC
- ( ): PB
- < >: REC
- \* : can not be measured.

- $\square$  : B+ Line.
- $\square$  : B- Line.
- Voltages are taken with a VOM (Input impedance  $10\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- $\square$  : PB
- $\square$  : REC

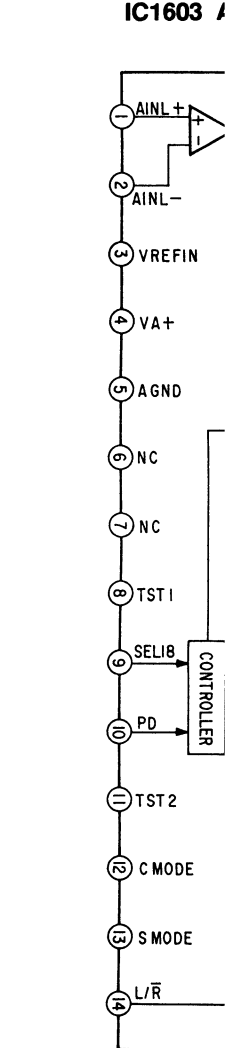
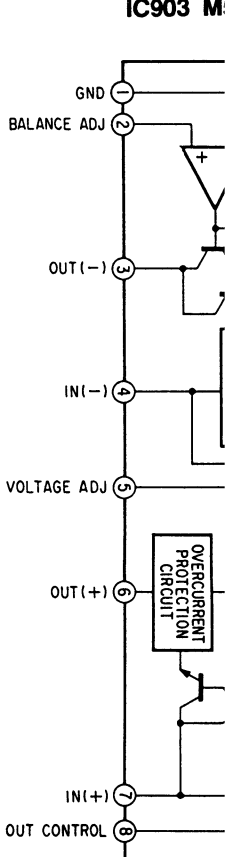
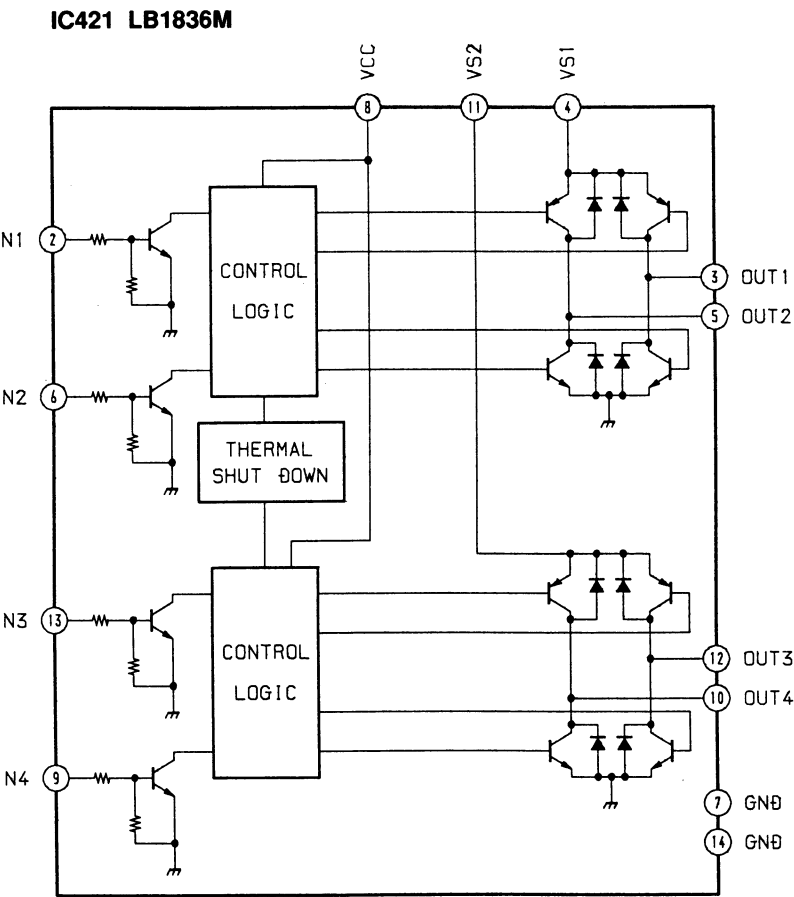
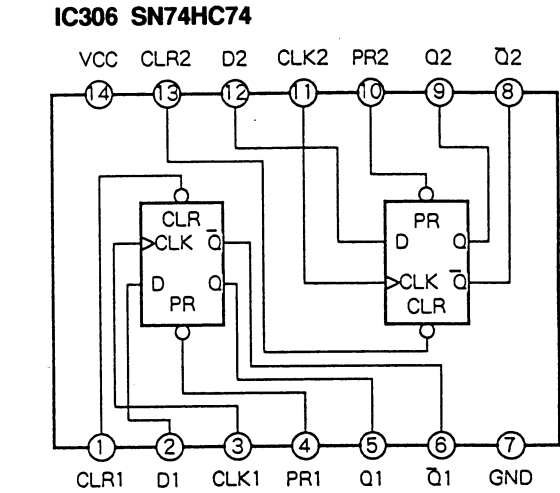
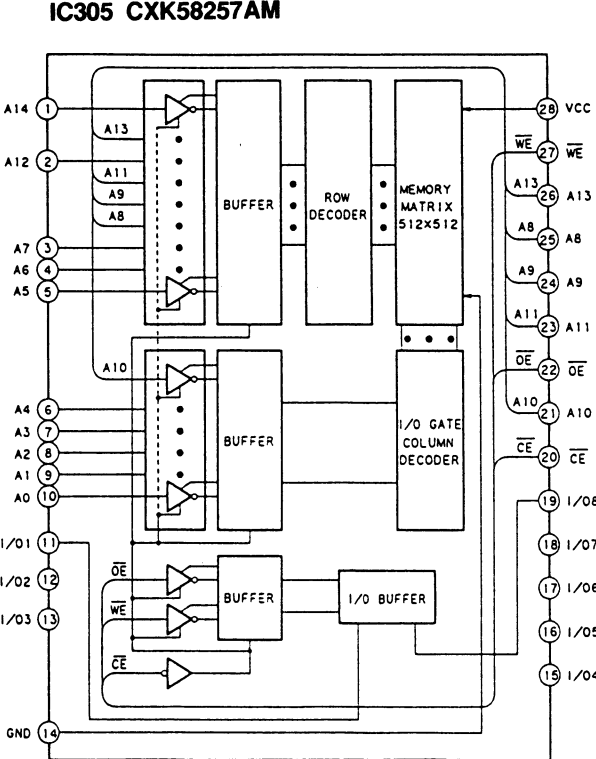
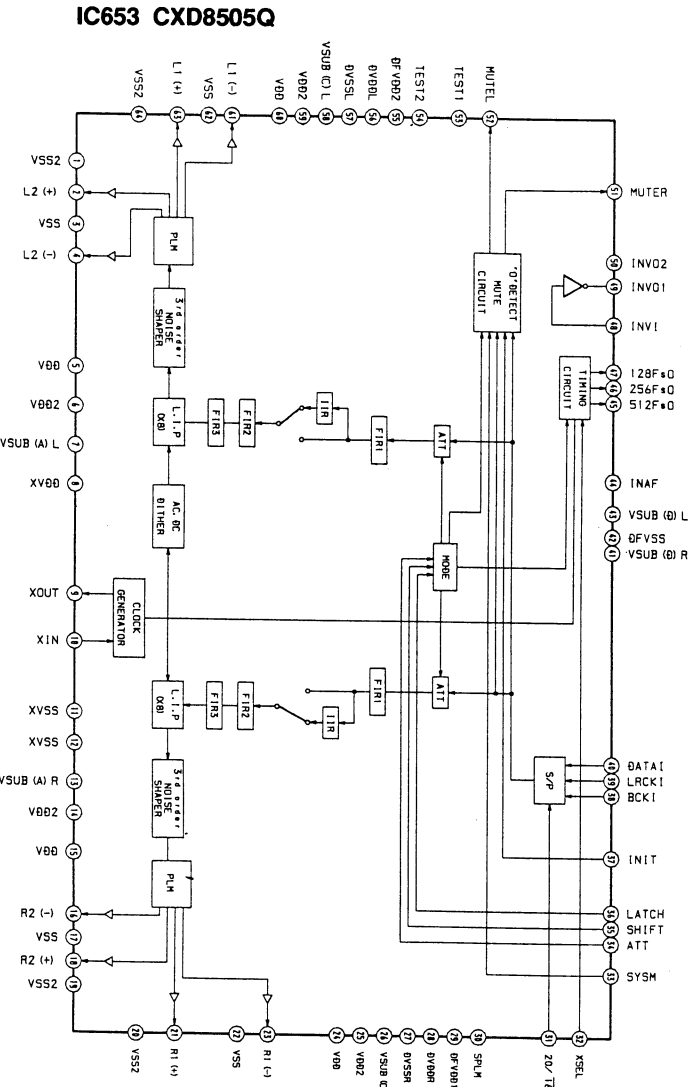
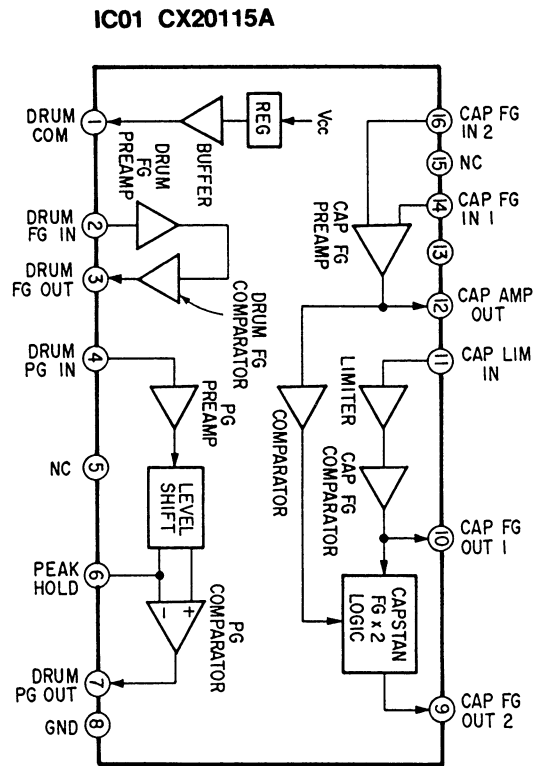
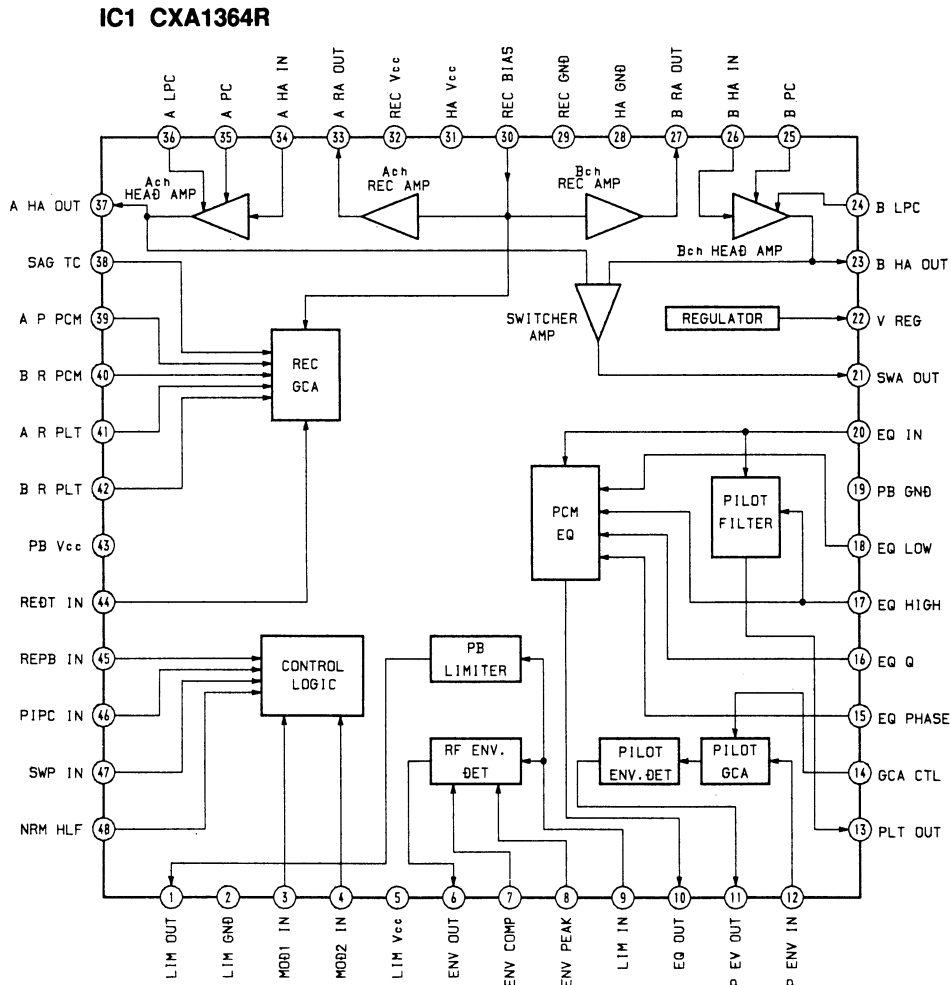




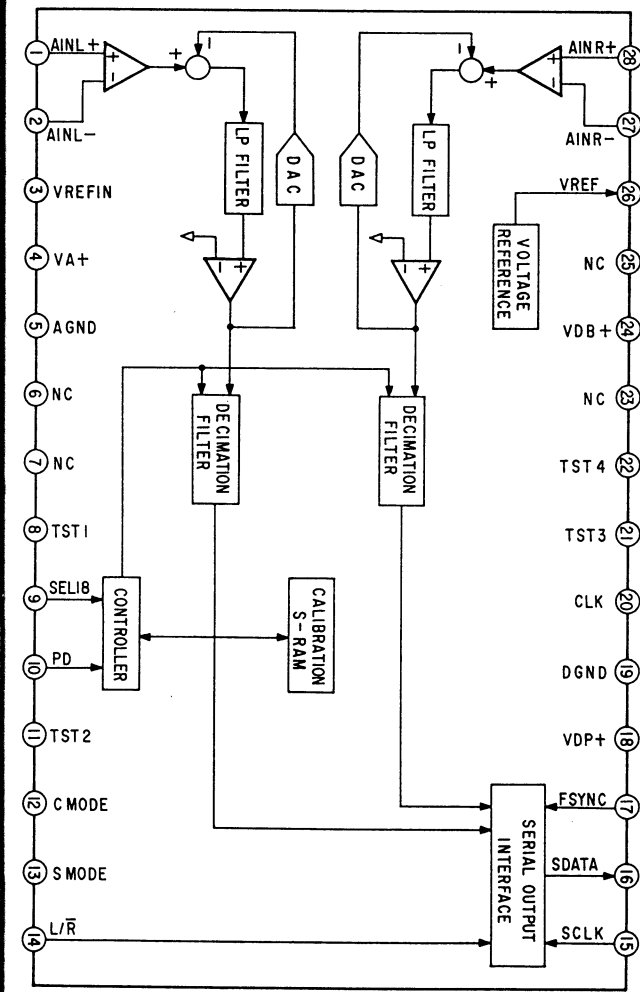
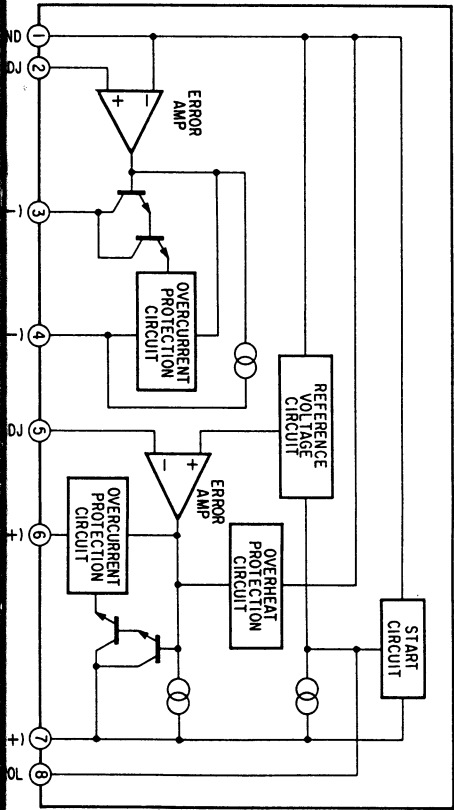




4-7. IC BLOCK DIAGRAMS







4-8. IC PIN FUNCTIONS

• IC304 CXD2605Q (DSP)

Pin No.	Pin Name	I/O	Function
1, 2	A8, A9	O	External RAM address output
3	VDD	—	Power supply (+5V)
4 to 8	A10 to A14	O	External RAM address output
9	XWE	O	External RAM write enable signal output
10	XOE	O	External RAM output enable signal output
11	XEAN	O	Not used (open).
12	TST1	I	Test pin. Fixed to "L".
13	XTIO	O	Crystal oscillation circuit 1 output
14	XTII	I	Crystal oscillation circuit 1 input
15	Vss	—	GND
16	XRST	I	Reset input. "L": Reset.
17	CLKO	O	Not used.
18	MINT	O	Control byte (1) bit 1="L": Q code decode (detecting between songs) output, "H": BCK clock output by RX-PLL.
19	ATSY	I	ATF sync signal input
20	MCLK	O	Not used.
21	DREF	O	SBSY period, duty 50 signal output
22	SBPM	O	Not used (open).
23	EXCK	I	Data transfer clock input for MAIN, MECH CONTROL (IC310)
24	SDSI	I	Serial data input from MAIN, MECH CONTROL (IC310)
25	SDSO	O	Serial data output to MAIN, MECH CONTROL (IC310)
26	SBSY	O	Frame sync signal output for transferring data with MAIN, MECH CONTROL (IC310)
27	RFPL	O	Not used (open).
28	CCLK	O	Not used.
29	MUTE	I	Mute input. "H": Mute. Not mute REC monitor sound.
30	MUTM	O	Mute monitor. "H": Indicates muting occurs.
31	UNLK	O	RXPLL lock monitor signal output. "L": Indicates locking occurs.
32	RFCT	I	Playback RF signal control ("L": Valid, "H": Invalid) (connected to GND)
33	SYMN	O	Outputs monitor signal for C1 check results corresponding to RF.
34	SELB	I	Test pin. Fixed to "H".
35	PLCK	O	Not used.
36	TST2	I	Test pin. Fixed to "L".
37	RFDT	I	Playback RF signal input
38	XCS	I	Chip select input for data transfer with microprocessor. "L": Transfer enable. (connected to GND)
39	SWP	I	RF switching pulse. "L": A track, "H": B track.
40	Vss	—	GND
41	PIPC	O	ATF pilot signal/discrimination signal output for record signal. "H": Pilot signal.
42	REPB	O	REC/PB discrimination signal output. "H": REC.
43	REDT	O	Record signal output
44	TST4	I	Test pin. Fixed to "L".
45	PDO	O	RXPLL phase comparator output



Function
put
put
e signal output
le signal output
output
input
Q code decode (detecting between songs) output, “H”: BCK clock output
al output
or MAIN, MECH CONTROL (IC310)
N, MECH CONTROL (IC310)
, MECH CONTROL (IC310)
or transferring data with MAIN, MECH CONTROL (IC310)
t mute REC monitor sound.
es muting occurs.
al output. “L”: Indicates locking occurs.
(“L”: Valid, “H”: Invalid) (connected to GND)
C1 check results corresponding to RF.
transfer with microprocessor. “L”: Transfer enable.
track, “H”: B track.
ation signal output for record signal. “H”: Pilot signal.
nal output. “H”: REC.
output

Pin No.	Pin Name	I/O	Function
46	SELC	I	Oscillation frequency select signal input (connected to GND)
47	MUTA	I	Mute input. “H”: Mute. Also mutes REC monitor sound.
48	PLCO	I	RXPLL external VCO clock input (512 fs as reference)
49	PLVR	O	Not used (open).
50	PLRF	O	Not used.
51	MSSL	I	Master mode/slave mode select. “H”: Master.
52	RX	I	Digital interface signal input
53	VDD	–	Power supply (+5V)
54	TX	O	Digital interface signal output
55	SELA	I	Test pin. Fixed to “H”.
56	EXSY	I/O	} External sync signal input/output
57	EXSN	I/O	
58	F128	I/O	} Not used.
59	F256	O	
60	F512	O	
61	ADLF	I	ADTT, ADDI, ADDN serial data LSB/MSB first select input. “H”: LSB first. (connected to GND)
62	DALF	I	DADT, DADO serial data LSB/MSB first select input. “H”: LSB first. (connected to GND)
63	XT2O	O	Crystal oscillation circuit 2 output
64	XT2I	I	Crystal oscillation circuit 2 input
65	Vss	–	GND
66	XT3O	O	Crystal oscillation circuit 3 output
67	XT3I	I	Crystal oscillation circuit 3 input
68	FSEN	I	F128, BCK, LRCK input/output select input. “H”: Output. Fixed to “H”.
69	LR03	O	Inverted signal of LRCK 16 BCK delay output.
70	LR02	O	} Not used (open).
71	LR01	O	
72	LRCK	I/O	fs/2 fs (at 2 × speed) signal input/output
73	WCK	O	Not used.
74	XBCK	O	Outputs inverted signal of BCK
75	BCK	I/O	64 fs/128 fs (at 2 × speed) signal input/output
76	ADDT	I	A/D serial data input
77	DADT	O	D/A serial data output
78	DADO	I	Audio data input for digital OUT
79	ADDI	O	Digital IN audio data output
80	ADDN	I	Digital IN audio data input
81	ERRI	I	Validity flag data input for digital OUT
82	ERRF	O	DADT data compensation data/discrimination signal output. “H”: Compensation data.
83	MNTG	O	Not used.
84	D7	I/O	External RAM data input/output (MSB)
85 to 89	D6 to D2	I/O	External RAM data input/output
90	Vss	–	GND
91	D1	I/O	External RAM data input/output
92	D0	I/O	External RAM data input/output (LSB)
93 to 100	A0 to A7	O	External RAM address output



• IC310 CXP87532-015Q (MAIN,MECH CONTROL)

Pin No.	Pin Name	I/O	Function
1	REEL CW	O	Reel motor CW output. "H": FWD direction.
2	C DIR RVS	O	Capstan direction control output. "L": FWD, "H": RVS
3	PLN ON	O	Brake plunger ON control output.
4	PLN KICK	O	Brake plunger kick control output.
5	D ON	O	Drum motor ON control output.
6	EEPROM NG	O	EEPROM condition output to test port. "H": unusual, "L": normality
7	DATA	O	Communication line (Serial data) with Digital filter.
8	X SHIFT CK	O	Communication line (Shift clock) with Digital filter. "L": shifted, "H": taken
9	X DIN REC	O	Digital signal control output. "L": Digital input REC
10	X COA/OPT	O	Digital input switch output. "L": coaxial, "H": optical
11	X LD AD	O	Load to Digital filter for A/D converter.
12	X LD DA	O	Load to Digital filter for D/A converter.
13	X LD DSP	O	} Not used (open).
14	X LD GARY	O	
15	CAS M IN	O	Cassette compartment motor rotation direction control output. IN direction.
16	CAS M OUT	O	Cassette compartment motor rotation direction control output. OUT direction.
17	LE	O	Loading motor rotation direction control output. Eject direction.
18	LL	O	Loading motor rotation direction control output. Loading direction.
19	X ROM SEL	O	ROM select output. "L": EEPROM
20	X FS 48K	O	} Not used.
21	X FS 44K	O	
22	X FS 32K	O	
23	2 HEAD	I	Head select. Fixed to "H"
24	TAPE TH CK	I	Detect kinds of tapes. "H": normal tape, "L": Thin tape. Fixed to "H"
25	CAS IN	I	Cassette IN switch input.
26	REC EN	I	REC enable switch input.
27	CAS LCK	I	Cassette compartment lock switch input.
28	CAS OUT	I	Cassette compartment out switch input.
29	RE FWD	I	Encoder SW2 input.
30	RE STOP	I	Encoder SW1 input.
31	EMPHASIS	O	Not used (open).
32	X LP REC	O	LP REC control output. "L": LP mode REC.
33	SBM ON	O	Not used (open).
34	X 2605 SEL	O	Chip select output to CXD2605. "L": Active
35 to 38	AF 3 to AF 0	I	AF mode select. Fixed to "H".
39	MP	—	Not used (connected to GND).
40	X RST	I	System reset input. "L": Active



Pin No.	Pin Name	I/O	Function
41	V <sub>SS</sub>	—	GND
42	XTAL	O	System clock output (open).
43	EXTAL	I	System clock input (9.408MHz).
44	X DISP REQ	O	Communication request output to DISPLAY CONTROL (IC801). "L": Active
45	REC DI	O	Record current control output. "H": Record disable "H": Record enable
46	X END LED ON	O	End sensor ON control output. "L": Active
47	END LED ON	O	Not used (open).
48	X DISP ACK	I	Communication acknowledge input from DISPLAY CONTROL (IC801). "L": Active
49	DE DT I	I	Serial data input from DISPLAY CONTROL (IC801) and EEPROM.
50	DE DT O	O	Serial data output to DISPLAY CONTROL (IC801) and EEPROM.
51	DE CK	O	Serial clock output to DISPLAY CONTROL (IC801) and EEPROM.
52	X SBSY	I	SUB SYNC input from CXD2605 (master).
53	SR DT IN	I	Serial data input from CXD2605.
54	SR DT OUT	O	Serial data output to CXD2605.
55	X SR CK	O	Serial clock output to CXD2605 (for sub code interface).
56	AV <sub>SS</sub>	—	GND for A/D port.
57	AV <sub>ref</sub>	—	Reference voltage for A/D port (+5V).
58	AV <sub>dd</sub>	—	Power supply for A/D port (+5V).
59	T END	I	T side end sensor input.
60	S END	I	S side end sensor input.
61	X 993	I	Fixed to "L".
62	X ROM BSY	I	Communication direction signal input from EEPROM. "L": Busy
63	—	I	Not used (connected to GND).
64	MUT MON	I	Mute monitor input. "H": Active
65	M INT	I	Q code decode value input. "H": Between songs
66	ATF IN	I	ATF pilot signal input (Analog input).
67	FG T	I	T side reel FG signal input.
68	FG S	I	S side reel FG signal input.
69	C FG	I	Capstan FG signal input.
70	D FG	I	Drum FG signal input.
71	D PG	I	Drum PG signal input.
72	D REF	I	Drum reference signal input.
73	ATF S2	I	DPG auto adjustment FRC signal input.
74	—	I	Not used (connected to GND)
75	MAIN CHECK	O	Main routine passed check output.
76	X CAS TEST	I	Test pin. "L": Test mode with no cassette compartment.
77	MST CK	I	Master clock input (9.408MHz).
78	PB DT	I	ATF SYNC PB data input.
79	SW P	O	Switching pulse output.
80	AGC PWM	O	PWM signal output for AGC.



Pin No.	Pin Name	I/O	Function
81	PWM R	O	PWM signal output for reel motor.
82	TEN PWM	O	PWM signal output for tension regulator plunger.
83	D PWM	O	PWM signal output for drum motor drive.
84	C PWM	O	PWM signal output for capstan motor.
85	SY MN	I	Syndrome monitor for error rate count input.
86	X TEST	I	Test pin. "L": Test mode
87	POW DN	I	Not used (Connected to +5V).
88	Vss	—	GND
89	Vdd	—	Power supply (+5V).
90	Vpp	—	Connected to +5V.
91	ATF S2	O	ATF sampling pulse #2 output.
92	AREA	O	AREA signal output.
93	X A/D INIT	O	Not used (open).
94	X D/A INIT	O	D/A digital filter reset output. "L": Reset
95	X L MUTE	O	Line mute output. "L": Active
96	AD PDN	O	A/D converter control output. "H": Power down, "L": Active
97	X RY MUTE	O	Relay mute signal output. "L": Active
98	MUTE 2605	O	Mute signal to CXD2605. "H": Active
99	RST/ERR CHECK	O	Test pin. Head address passed check. Error rate check. "L": OK, "H": NG > 400
100	REEL CCW	O	Reel motor CCW output. "L": RVS direction



• IC801 CXP82316-054Q (DISPLAY CONTROL)

Pin No.	Pin Name	I/O	Function
1	H	I	Not used (connected to +5V).
2	RMC	I	Remote control signal input.
3	X TEST	I	Test pin. "L": Test mode
4	LVL AD1	O	} METER IC(IC802) 4-bit address bus.
5	LVL AD0	O	
6	MUTE	I	Level meter mute signal input.
7	X DISP ACK	O	Acknowledge signal output to MAIN, MECH CONTROL (IC310).
8	SCK MAIN	I	Serial clock input from MAIN, MECH CONTROL (IC310).
9	SI MAIN	I	Serial data input from MAIN, MECH CONTROL (IC310).
10	SO MAIN	O	Serial data output to MAIN, MECH CONTROL (IC310).
11	XLVL SEL	O	CS signal output to METER IC (IC802).
12	XLVL RD	O	RD signal output to METER IC (IC802).
13	XLVL WR	O	WR signal output to METER IC (IC802).
14	RMC SEL	I	} Not used (open).
15	LED PLAY	O	
16	LED PAUSE	O	
17	LED REC	O	
18 to 21	—	O	
22 to 29	AD0 to AD7	I	Key switch AD0 to AD7 series input.
30	X RESET	I	System reset input. "L": Active
31	EXTAL	I	System clock input. (4.19MHz).
32	XTAL	O	System clock output (4.19MHz).
33	Vss	—	GND
34 to 57	SEG0 to SEG23	O	FL display segment drive output.
58 to 67	GRID1 to GRID10	O	} FL display grid drive output.
68	GRID12	O	
69	GRID11	O	
70	GRID0	O	
71	VFDP	I	−30V power supply for driving FL display.
72	Vdd	—	Power supply (+5V).
73	NC	—	Not used (connected to +5V)
74 to 77	LVL DT0 to LVL DT3	I/O	METER IC (IC802) 4-bit data bus.
78	H	I	Not used (connected to +5V)
79	X DISP REQ	I	Communication request signal input from MAIN, MECH CONTROL (IC310).
80	X DISP MODE	I	Not used (connected to GND).



• IC802 MSM6338RS (METER IC)

Pin No.	Pin Name	I/O	Function
1	DATA	I	fs serial data input (2's complement)
2	BCK	I	fs serial data fetch clock (bit clock)
3	LRCK	I	fs input Lch/Rch discrimination signal. "H": Rch, "L": Lch.
4	XRST	I	Reset input. "L": Reset.
5	XWR	I	Data write request input (data write at rising edge)
6	XRD	I	Data read request input ("L": Read enable)
7	XCS	I	Chip select input ("L": Select)
8	Vss	—	GND
9	D0	I/O/Z	4-bit data bus (tristate)
10	NC	—	Not used (open).
11	D1	I/O/Z	} 4-bit data bus (tristate)
12	D2	I/O/Z	
13	D3	I/O/Z	
14	A0	I	} Address input. Selects internal register.
15	A1	I	
16	VDD	—	Power supply (+5V).






## EXPLODED VIEWS

**NOTE:**

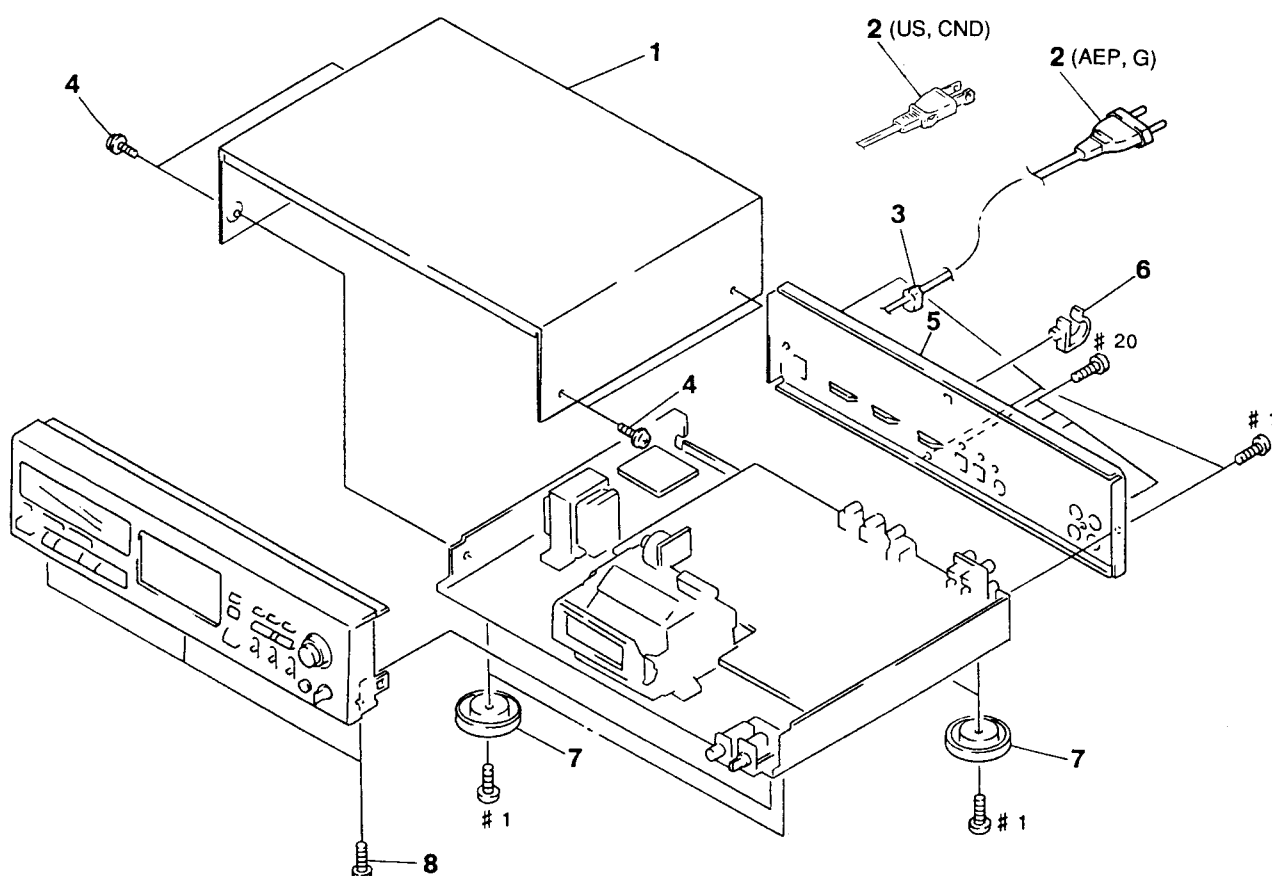
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation  
 CND : Canadian model  
 G : German model

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

## 5-1. CASE SECTION

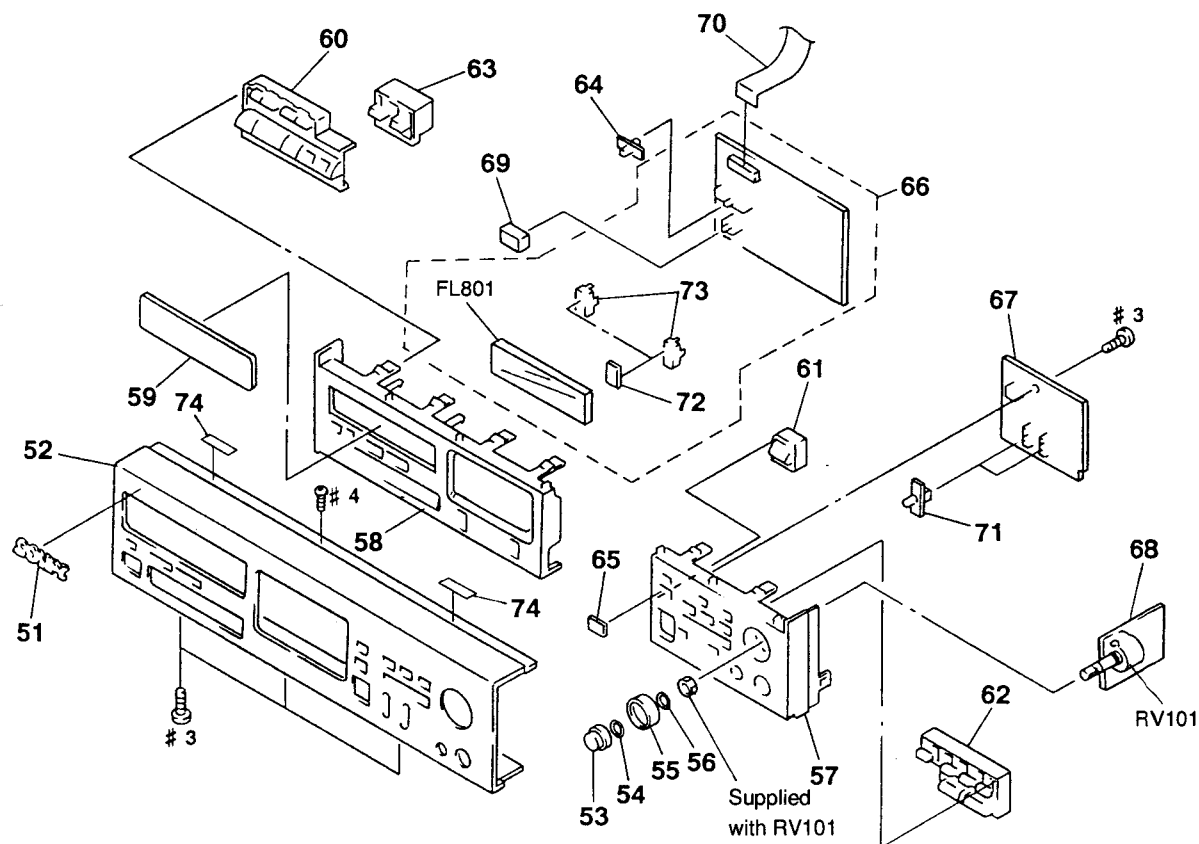


<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	3-350-407-41	CASE
△ 2	1-575-651-21	CORD, POWER (AEP, G)
△ 2	1-590-836-11	CORD, POWER (US, CND)
* 3	3-703-244-00	BUSHING (2104), CORD
4	3-704-366-01	SCREW (CASE) (M3X8)

<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
* 5		3-922-820-11	PANEL, BACK (US, CND)
* 5		3-922-820-21	PANEL, BACK (AEP, G)
* 6		4-949-235-01	HOOK
7		4-956-885-11	FOOT (F58175S2W)
8		3-703-685-21	SCREW (+BV 3X8)



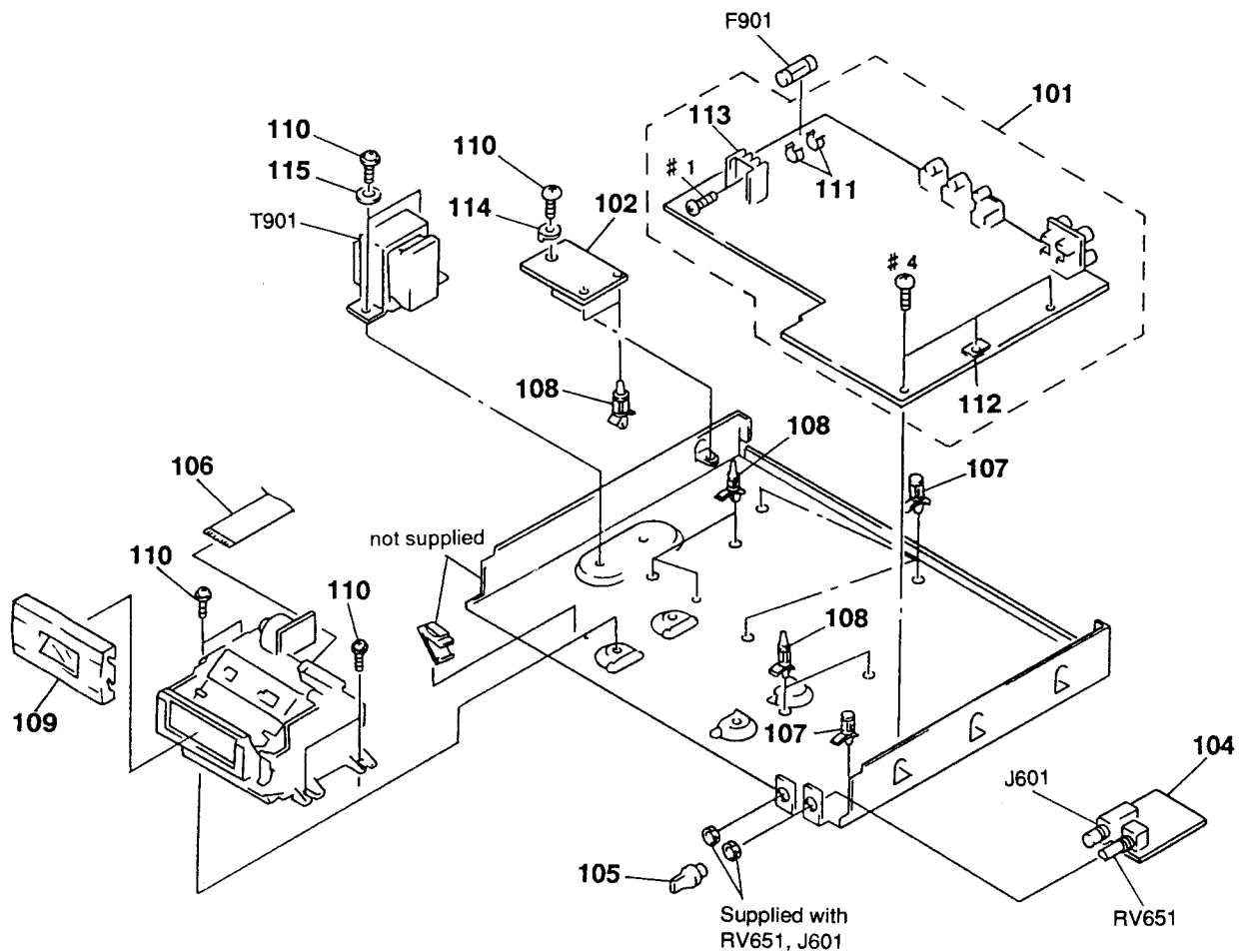
## 5-2. FRONT PANEL SECTION






Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
51	4-942-568-01	EMBLEM (NO.5), SONY		64	4-922-518-01	KNOB (TIMER)	
52	3-922-821-11	PANEL, FRONT (US, CND)		65	4-969-185-01	WINDOW (REMOTE CONTROL)	
52	3-922-821-21	PANEL, FRONT (AEP, G)		* 66	A-2007-387-A	DISPLAY (A) BOARD, COMPLETE	
53	3-382-635-01	KNOB (REC-R)		* 67	1-656-331-11	DISPLAY (B) BOARD	
54	3-356-957-01	SPRING		* 68	1-656-332-11	REC VOL BOARD	
				69	4-922-921-01	BUTTON (POWER)	
55	3-382-634-01	KNOB (REC-L)		70	1-775-464-11	WIRE (FLAT TYPE) (17 CORE)	
56	3-382-627-01	SPRING, RING		71	3-917-216-11	KNOB (TIMER)	
57	3-922-823-02	ESCUTCHEON (R)		* 72	4-932-810-11	CUSHION (FL)	
58	3-922-822-02	ESCUTCHEON (L)		* 73	4-947-170-01	HOLDER	
59	3-922-932-01	WINDOW (FL TUBE)		74	3-831-441-XX	CUSHION, SPEAKER	
60	3-922-824-01	BUTTON (1)		FL801	1-517-382-11	INDICATOR TUBE, FLUORESCENT	
61	3-922-825-01	BUTTON (2)		RV101	1-241-937-11	RES, VAR, CARBON 20K/20K (REC LEVEL)	
62	3-922-826-01	BUTTON (3)					
63	3-922-827-01	BUTTON (4)					







### 5-3. CHASSIS SECTION



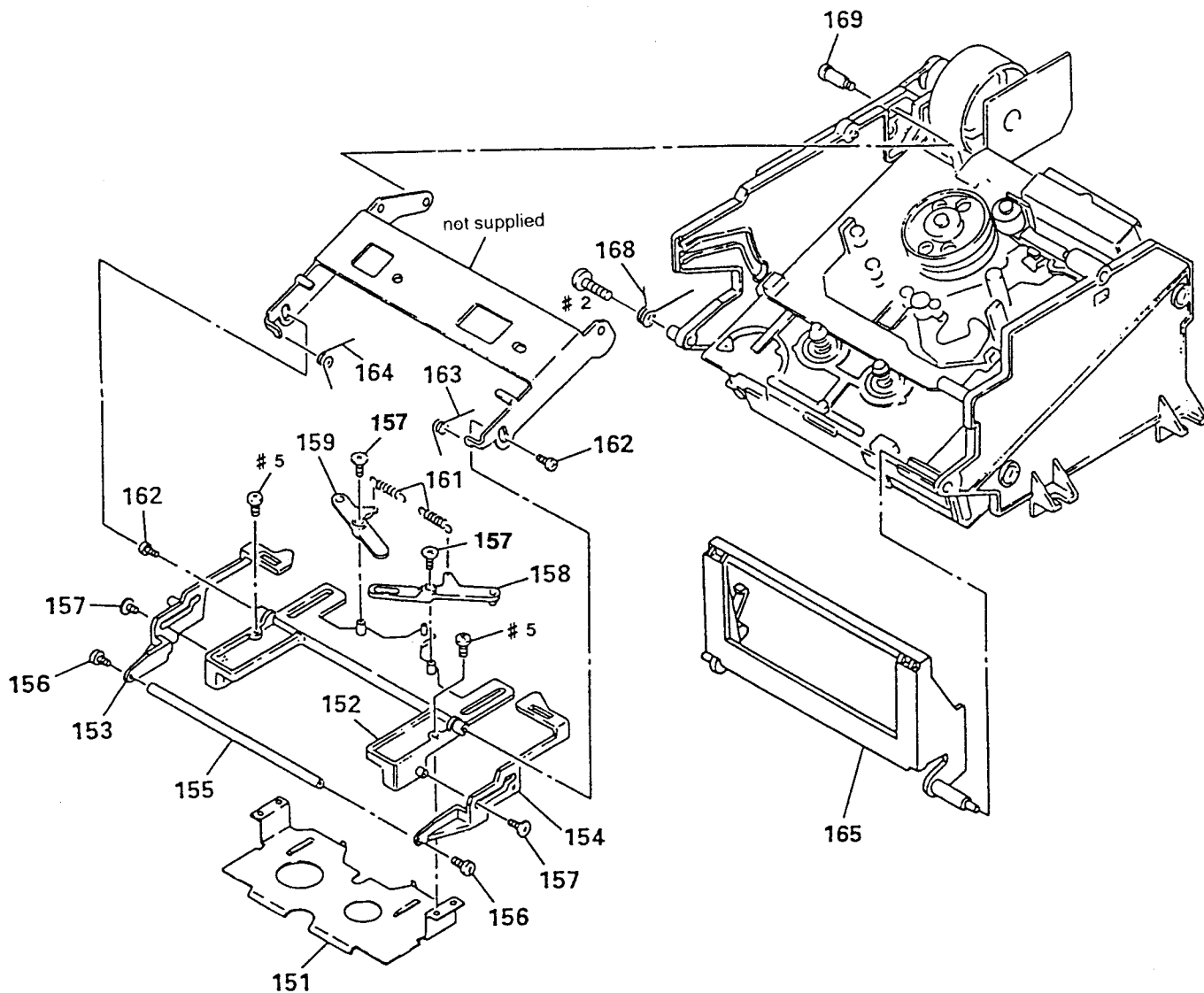
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
* 101	A-2007-386-A	MAIN BOARD, COMPLETE (US)		* 111	1-533-213-31	HOLDER, FUSE	
* 101	A-2007-389-A	MAIN BOARD, COMPLETE (CND)		112	1-537-770-21	TERMINAL BOARD, GROUND	
* 101	A-2007-390-A	MAIN BOARD, COMPLETE (AEP, G)		* 113	4-363-146-71	HEAT SINK, V. OUT	
* 102	1-656-333-11	PRIMARY BOARD		* 114	3-346-266-12	PLATE, GROUND	
* 104	1-656-334-11	HEADPHONE BOARD		115	3-701-418-00	WASHER, SPECIAL	
105	X-3362-818-1	KNOB (DIA. 12) ASSY (B), FLAT		 F901	1-532-286-00	FUSE (T2.5A 250V) (AEP, G)	
106	1-775-389-11	WIRE (FLAT TYPE) (31 CORE)		 F901	1-576-105-11	FUSE (2.5A 250V) (US, CND)	
* 107	3-670-570-00	SPACER, SUPPORT		J601	1-770-904-11	JACK (LARGE TYPE) (PHONES)	
108	4-924-098-01	HOLDER, PC BOARD		RV651	1-223-620-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)	
109	X-3366-266-1	PANEL (CASSETTE) ASSY		 T901	1-427-889-11	TRANSFORMER, POWER (US, CND)	
110	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6		 T901	1-427-890-11	TRANSFORMER, POWER (AEP, G)	



## 5-4. MECHANISM DECK SECTION-1

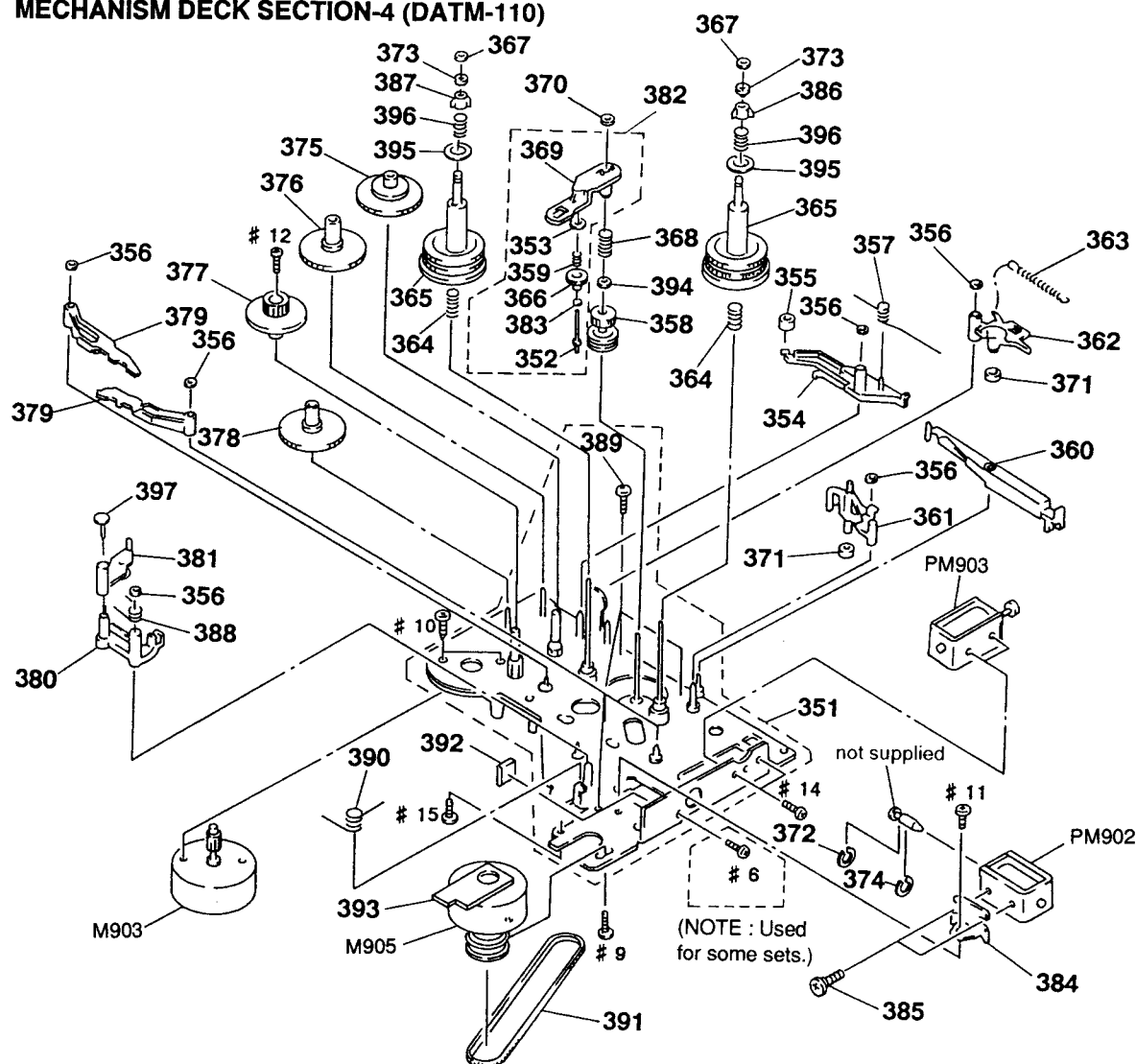


Ref. No.	Part No.	Description
151	3-373-224-01	HOLDER (LOWER)
152	3-373-237-03	HOLDER (UPPER), CASSETTE
153	3-373-223-01	SLIDER (L)
154	3-373-222-01	SLIDER (R)
* 155	3-373-217-01	SHAFT (JOINT)
156	3-345-648-61	SCREW (M1.4), TOOTHED LOCK
157	3-318-201-11	SCREW (B) (1.4X3), TAPPING
158	3-373-218-01	LEVER (R)
159	3-373-219-01	LEVER (L)

Ref. No.	Part No.	Description
161	3-632-859-00	SPRING, BRAKE LEVER RETURN
162	3-318-203-61	SCREW (B1.7X4), TAPPING
163	3-373-215-01	SPRING (R), TORSION
164	3-373-216-01	SPRING (L), TORSION
165	3-382-648-01	HOLDER (WINDOW)
168	3-373-212-01	SPRING (CASSETTE)
169	4-931-471-01	SCREW (STEP)



# 5-7. MECHANISM DECK SECTION-4 (DATM-110)



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
* 351	A-2004-478-A	CHASSIS ASSY, REEL		377	3-368-403-01	GEAR (CAM DRIVE D)	
352	3-375-210-01	SHAFT (GOOSENECK GEAR)		378	3-368-402-01	GEAR (CAM DRIVE A, B)	
353	3-368-422-01	POLY-SLIDER (DIA. 5.5-DIA. 1.5)		379	X-3363-024-1	LEVER (BT) ASSY	
* 354	3-368-455-01	LEVER (GEAR LOCK)		380	X-3369-126-1	LEVER (BT SOLENOID)	
355	3-368-418-01	TUBE (BREAK)					
356	3-368-398-01	BUSHING		* 381	3-368-454-01	LEVER (BT SELECTION)	
357	3-368-430-01	SPRING (GEAR LOCK)		382	X-3364-581-3	LEVER (F/R) ASSY	
358	X-3363-022-1	GEAR (REEL DRIVE) ASSY		383	3-701-436-01	WASHER, 1.6	
359	3-923-260-01	SPRING, COMPRESSION		* 384	3-368-416-01	BRACKET (B.T SOLENOID)	
* 360	3-368-453-01	LEVER (BRAKE SOLENOID)		385	3-368-423-01	SCREW (M2.6), STEP	
				386	2-623-736-01	CLAW (C) (LEFT), REEL	
* 361	3-368-447-01	LEVER (BRAKE S)		387	2-623-752-01	CLAW (C) (RIGHT), REEL	
* 362	3-368-446-01	LEVER (BRAKE T)		388	3-383-478-01	SPRING (B.T LEVER RETURN)	
363	3-368-438-01	SPRING (BREAK), TENSION		389	2-623-756-01	SCREW, (B1.7X3), TAPPING	
364	3-905-586-02	SPRING (FF/REW), COMPRESSION		390	3-368-431-01	SPRING (B.T SOLENOID)	
365	X-3370-132-1	TABLE (LOWER) ASSY, REEL					
366	3-368-406-01	GEAR (GOOSENECK)		391	3-368-417-01	BELT (170TN10-1.0T), TIMING	
367	3-578-224-00	WASHER		392	3-928-150-01	SPACER (P)	
368	3-923-261-01	SPRING (FR LEVER), COMPRESSION		* 393	1-639-304-14	REEL MOTOR BOARD	
369	3-368-450-01	LEVER (F/R)		394	3-368-422-11	POLY-SLIDER (DIA. 5.5-DIA. 1.5)	
370	3-315-384-31	WASHER, STOPPER		395	3-492-261-11	SLIDER	
371	3-377-332-01	TUBE (BREAK2)		396	3-923-259-01	SPRING (REEL TABLE), COMPRESSION	
372	3-905-867-01	SPRING (STOPPER)		397	3-368-415-01	SHAFT (LOAD LEVER JOINT)	
373	3-368-400-02	BUSHING (REEL SHAFT)		M903	X-3363-109-1	MOTOR (CAM) ASSY	
374	3-919-599-01	SPACER (P)		M905	X-3363-110-2	MOTOR (REEL) ASSY	
375	3-368-421-01	GEAR (CAM DRIVE C)		PM902	1-454-536-11	SOLENOID, PLUNGER (LOADING)	
376	3-373-039-01	GEAR (CAM DRIVE B)		PM903	1-454-732-11	SOLENOID, PLUNGER (REEL MOTOR CONTROL)	



# SECTION 6

## ELECTRICAL PARTS LIST

## NOTE:

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS  
All resistors are in ohms  
METAL: Metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F : nonflammable

- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA...:  $\mu$  A..., uPA...:  $\mu$  PA..., uPB...:  $\mu$  PB...,  
uPC...:  $\mu$  PC..., uPD...:  $\mu$  PD...
- CAPACITORS  
uF :  $\mu$  F
- COILS  
uH :  $\mu$  H
- Abbreviation  
CND : Canadian model  
G : German model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-639-306-11	CAM SLIDER BOARD *****		Q803	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< SWITCH >				< RESISTOR >	
SW1	1-570-953-11	SWITCH, PUSH (1 KEY) (STOP DET)		R801	1-249-427-11	CARBON 6.8K 5% 1/4W F	
SW2	1-570-953-11	SWITCH, PUSH (1 KEY) (FWD DET)		R802	1-249-415-11	CARBON 680 5% 1/4W F	
*****				R803	1-249-417-11	CARBON 1K 5% 1/4W F	
*	A-2007-387-A	DISPLAY (A) BOARD, COMPLETE *****		R804	1-249-419-11	CARBON 1.5K 5% 1/4W F	
*	4-932-810-11	CUSHION (FL)		R805	1-249-423-11	CARBON 3.3K 5% 1/4W F	
*	4-947-170-01	HOLDER		R806	1-249-425-11	CARBON 4.7K 5% 1/4W F	
		< CAPACITOR >		R807	1-249-429-11	CARBON 10K 5% 1/4W F	
C881	1-164-096-11	CERAMIC 0.01uF 50V		R811	1-249-427-11	CARBON 6.8K 5% 1/4W F	
C882	1-164-096-11	CERAMIC 0.01uF 50V		R812	1-249-415-11	CARBON 680 5% 1/4W F	
C883	1-164-096-11	CERAMIC 0.01uF 50V		R813	1-249-417-11	CARBON 1K 5% 1/4W F	
C884	1-126-177-11	ELECT 100uF 20% 10V		R814	1-249-419-11	CARBON 1.5K 5% 1/4W F	
C885	1-164-096-11	CERAMIC 0.01uF 50V		R815	1-249-423-11	CARBON 3.3K 5% 1/4W F	
C886	1-164-096-11	CERAMIC 0.01uF 50V		R817	1-249-431-11	CARBON 15K 5% 1/4W F	
		< CONNECTOR >		R818	1-249-435-11	CARBON 33K 5% 1/4W F	
CN801	1-568-860-11	SOCKET, CONNECTOR 17P		R821	1-249-427-11	CARBON 6.8K 5% 1/4W F	
		< COMPOSITION CIRCUIT BLOCK >		R831	1-249-427-11	CARBON 6.8K 5% 1/4W F	
CP801	1-233-276-11	COMPOSITION CIRCUIT BLOCK		R841	1-249-437-11	CARBON 47K 5% 1/4W F	
CP802	1-233-276-11	COMPOSITION CIRCUIT BLOCK		R851	1-249-437-11	CARBON 47K 5% 1/4W F	
CP803	1-233-276-11	COMPOSITION CIRCUIT BLOCK		R861	1-249-437-11	CARBON 47K 5% 1/4W F	
CP804	1-233-276-11	COMPOSITION CIRCUIT BLOCK		R871	1-249-437-11	CARBON 47K 5% 1/4W F	
		< FLUORESCENT INDICATOR >		R881	1-249-417-11	CARBON 1K 5% 1/4W F	
FL801	1-517-382-11	INDICATOR TUBE, FLUORESCENT		R882	1-249-437-11	CARBON 47K 5% 1/4W F	
		< IC >		R883	1-249-437-11	CARBON 47K 5% 1/4W F	
IC801	8-752-863-90	IC CXP82316-054Q		R884	1-249-437-11	CARBON 47K 5% 1/4W F	
IC802	8-759-995-09	IC MSM6338RS		R885	1-249-437-11	CARBON 47K 5% 1/4W F	
		< TRANSISTOR >		R886	1-249-437-11	CARBON 47K 5% 1/4W F	
Q801	8-729-620-05	TRANSISTOR 2SC2603-EF		R887	1-249-417-11	CARBON 1K 5% 1/4W F	
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF		R888	1-249-437-11	CARBON 47K 5% 1/4W F	
				R889	1-249-437-11	CARBON 47K 5% 1/4W F	
				R890	1-249-429-11	CARBON 10K 5% 1/4W F	
				R891	1-249-429-11	CARBON 10K 5% 1/4W F	
						< SWITCH >	
				S802	1-554-937-11	SWITCH, KEY BOARD (■)	
				S803	1-554-937-11	SWITCH, KEY BOARD (▷)	
				S804	1-554-937-11	SWITCH, KEY BOARD (◁◁◁)	
				S805	1-554-937-11	SWITCH, KEY BOARD (▷▷▷)	
				S806	1-554-937-11	SWITCH, KEY BOARD (MODE)	



# DISPLAY (A)

# DISPLAY (B)

# DRUM DRIVE

Ref.No.	Part No.	Description	Remark
S807	1-554-937-11	SWITCH, KEY BOARD (RESET)	
S811	1-554-937-11	SWITCH, KEY BOARD (◀▶)	
S812	1-554-937-11	SWITCH, KEY BOARD (▶▶)	
S813	1-554-937-11	SWITCH, KEY BOARD (REC ●)	
S814	1-554-937-11	SWITCH, KEY BOARD (■)	
S815	1-554-937-11	SWITCH, KEY BOARD (REC MUTE ●)	
S817	1-692-478-11	SWITCH, SLIDE (TIMER)	
S841	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	
< VIBRATOR >			
X801	1-577-359-21	VIBRATOR, CERAMIC (4.19MHZ)	
*****			
*	1-656-331-11	DISPLAY (B) BOARD	
*****			
< CAPACITOR >			
C891	1-164-096-11	CERAMIC 0.01uF	50V
< IC >			
IC891	8-741-810-59	IC ELEMENT, RAY-CATCHER SBX1810-59 (R)	
< RESISTOR >			
R822	1-249-415-11	CARBON 680 5% 1/4W F	
R823	1-249-417-11	CARBON 1K 5% 1/4W F	
R824	1-249-419-11	CARBON 1.5K 5% 1/4W F	
R825	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R826	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R827	1-249-429-11	CARBON 10K 5% 1/4W	
R828	1-249-435-11	CARBON 33K 5% 1/4W	
R837	1-249-433-11	CARBON 22K 5% 1/4W	
R838	1-249-435-11	CARBON 33K 5% 1/4W	
< SWITCH >			
S821	1-554-937-11	SWITCH, KEY BOARD (AUTO)	
S822	1-554-937-11	SWITCH, KEY BOARD (RENUMBER)	
S823	1-554-937-11	SWITCH, KEY BOARD (REHEARSAL)	
S824	1-554-937-11	SWITCH, KEY BOARD (WRITE)	
S825	1-554-937-11	SWITCH, KEY BOARD (ERASE)	
S826	1-554-937-11	SWITCH, KEY BOARD (MARGINE RESET)	
S827	1-572-268-11	SWITCH, SLIDE (REC MODE)	
S831	1-554-937-11	SWITCH, KEY BOARD (OPEN/CLOSE △)	
S837	1-572-268-11	SWITCH, SLIDE (INPUT)	

\*\*\*\*\*

Ref.No.	Part No.	Description	Remark
*	A-2007-419-A	DRUM DRIVE BOARD, COMPLETE	
*****			
*	3-343-491-01	HOLDER (S SENSOR B)	
*	4-870-539-00	PLATE, GROUND	
< CAPACITOR >			
C01	1-126-176-11	ELECT 220uF	20% 10V
C02	1-126-157-11	ELECT 10uF	20% 16V
C03	1-124-257-00	ELECT 2.2uF	20% 50V
C04	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C05	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C08	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C21	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C31	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C32	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C33	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C34	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C35	1-163-038-91	CERAMIC CHIP 0.1uF	25V
< CONNECTOR >			
CN01	1-691-459-21	PIN, CONNECTOR (PC BOARD) 3P	
* CN02	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
* CN03	1-564-338-00	PIN, CONNECTOR 4P	
* CN04	1-564-336-00	PIN, CONNECTOR 2P	
* CN06	1-564-339-00	PIN, CONNECTOR 5P	
CN07	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P	
* CN08	1-568-873-11	SOCKET, CONNECTOR 31P	
* CN09	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
* CN10	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
< IC >			
IC01	8-752-060-73	IC CX20115A	
IC02	8-759-502-80	IC LM358M	
IC03	8-759-502-80	IC LM358M	
< JUMPER RESISTOR >			
JW04	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW06	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW07	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW08	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW09	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW10	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW11	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW13	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW14	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW15	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW17	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW19	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW21	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW22	1-216-296-00	METAL CHIP 0 5% 1/8W	



# DRUM DRIVE

# HEADPHONE

# MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
JW23	1-216-296-00	METAL CHIP	0 5% 1/8W	*	1-656-334-11	HEADPHONE BOARD *****	
JW24	1-216-296-00	METAL CHIP	0 5% 1/8W			< CAPACITOR >	
JW25	1-216-296-00	METAL CHIP	0 5% 1/8W				
JW26	1-216-296-00	METAL CHIP	0 5% 1/8W				
JW27	1-216-296-00	METAL CHIP	0 5% 1/8W	C681	1-126-024-11	ELECT 220uF 20% 25V	
JW28	1-216-296-00	METAL CHIP	0 5% 1/8W	C682	1-126-024-11	ELECT 220uF 20% 25V	
						< CONNECTOR >	
JW29	1-216-296-00	METAL CHIP	0 5% 1/8W				
JW31	1-216-296-00	METAL CHIP	0 5% 1/8W	CN652	1-564-510-11	PLUG (MICRO CONNECTOR) 6P	
JW32	1-216-296-00	METAL CHIP	0 5% 1/8W			< IC >	
JW33	1-216-296-00	METAL CHIP	0 5% 1/8W				
JW34	1-216-296-00	METAL CHIP	0 5% 1/8W	IC681	8-759-634-50	IC M5218AL	
						< JACK >	
		< PHOTO INTERRUPTER >		J601	1-770-904-11	JACK (LARGE TYPE) (PHONES)	
PH01	8-719-939-23	DIODE GP-2S09-C (TAKE-UP REEL)				< RESISTOR >	
PH02	8-719-939-23	DIODE GP-2S09-C (SUPPLY REEL)					
		< TRANSISTOR >		R231	1-249-435-11	CARBON 33K 5% 1/4W	
				R232	1-249-425-11	CARBON 4.7K 5% 1/4W F	
Q01	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R233	1-249-431-11	CARBON 15K 5% 1/4W	
Q02	8-729-101-07	TRANSISTOR 2SB798-DL		R234	1-247-807-31	CARBON 100 5% 1/4W	
		< RESISTOR >		R281	1-249-435-11	CARBON 33K 5% 1/4W	
R01	1-216-061-00	METAL CHIP 3.3K 5% 1/10W					
R02	1-216-073-00	METAL CHIP 10K 5% 1/10W		R282	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R03	1-216-029-00	METAL CHIP 150 5% 1/10W		R283	1-249-431-11	CARBON 15K 5% 1/4W	
R04	1-216-057-00	METAL CHIP 2.2K 5% 1/10W		R284	1-247-807-31	CARBON 100 5% 1/4W	
R05	1-216-057-00	METAL CHIP 2.2K 5% 1/10W		△R691	1-202-857-11	THERMISTOR, POSITIVE 33	
				△R692	1-202-857-11	THERMISTOR, POSITIVE 33	
R06	1-216-085-00	METAL CHIP 33K 5% 1/10W				< VARIABLE RESISTOR >	
R07	1-216-025-91	METAL GLAZE 100 5% 1/10W		RV651	1-223-620-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)	
R08	1-216-049-91	METAL GLAZE 1K 5% 1/10W				*****	
R09	1-216-073-00	METAL CHIP 10K 5% 1/10W		*	A-2007-386-A	MAIN BOARD, COMPLETE (US) *****	
R10	1-216-073-00	METAL CHIP 10K 5% 1/10W					
R11	1-216-073-00	METAL CHIP 10K 5% 1/10W		*	A-2007-389-A	MAIN BOARD, COMPLETE (CND) *****	
R12	1-216-073-00	METAL CHIP 10K 5% 1/10W					
R13	1-216-073-00	METAL CHIP 10K 5% 1/10W		*	A-2007-390-A	MAIN BOARD, COMPLETE (AEP,G) *****	
R14	1-216-037-00	METAL CHIP 330 5% 1/10W					
R21	1-216-073-00	METAL CHIP 10K 5% 1/10W					
R22	1-216-081-00	METAL CHIP 22K 5% 1/10W		*	1-533-213-31	HOLDER, FUSE	
R23	1-216-077-00	METAL CHIP 15K 5% 1/10W			1-537-770-21	TERMINAL BOARD, GROUND	
R24	1-216-069-00	METAL CHIP 6.8K 5% 1/10W		*	4-363-146-71	HEAT SINK, V. OUT	
R25	1-216-105-91	METAL GLAZE 220K 5% 1/10W			7-682-548-09	SCREW +B 3X8	
R26	1-216-065-00	METAL CHIP 4.7K 5% 1/10W				< CAPACITOR >	
R31	1-216-073-00	METAL CHIP 10K 5% 1/10W		C101	1-124-477-11	ELECT 47uF 20% 25V	
R32	1-216-081-00	METAL CHIP 22K 5% 1/10W		C102	1-162-286-31	CERAMIC 220PF 10% 50V	
R35	1-216-105-91	METAL GLAZE 220K 5% 1/10W		C151	1-124-477-11	ELECT 47uF 20% 25V	
R36	1-216-065-00	METAL CHIP 4.7K 5% 1/10W		C152	1-162-286-31	CERAMIC 220PF 10% 50V	

<p>The components identified by mark <math>\Delta</math> or dotted line with mark <math>\Delta</math> are critical for safety. Replace only with part number specified.</p>	<p>Les composants identifiés par une marque <math>\Delta</math> sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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# MAIN

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C201	1-130-471-00	MYLAR 0.001uF 5% 50V		C433	1-162-288-31	CERAMIC 330PF 10% 50V	
C202	1-110-341-11	MYLAR 330PF 5% 50V		C439	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C203	1-110-341-11	MYLAR 330PF 5% 50V		C441	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C204	1-130-471-00	MYLAR 0.001uF 5% 50V		C442	1-161-494-00	CERAMIC 0.022uF 25V	
C205	1-130-479-00	MYLAR 0.0047uF 5% 50V		C443	1-162-301-11	CERAMIC 0.0015uF 20% 16V	
C206	1-124-443-00	ELECT 100uF 20% 10V		C444	1-124-907-11	ELECT 10uF 20% 50V	
C207	1-162-302-11	CERAMIC 0.0022uF 30% 16V		C445	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C251	1-130-471-00	MYLAR 0.001uF 5% 50V		C451	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C252	1-110-341-11	MYLAR 330PF 5% 50V		C452	1-126-963-11	ELECT 4.7uF 20% 50V	
C253	1-110-341-11	MYLAR 330PF 5% 50V		C453	1-124-907-11	ELECT 10uF 20% 50V	
C254	1-130-471-00	MYLAR 0.001uF 5% 50V		C454	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C255	1-130-479-00	MYLAR 0.0047uF 5% 50V		C459	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C256	1-124-443-00	ELECT 100uF 20% 10V		C471	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C257	1-162-302-11	CERAMIC 0.0022uF 30% 16V		C481	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C302	1-162-197-31	CERAMIC 6.8PF 10% 50V		C491	1-162-290-31	CERAMIC 470PF 10% 50V	
C304	1-124-903-11	ELECT 1uF 20% 50V		C492	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C307	1-164-159-11	CERAMIC 0.1uF 50V		C502	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C308	1-162-294-31	CERAMIC 0.001uF 10% 50V		C503	1-162-284-31	CERAMIC 150PF 10% 50V	
C309	1-124-443-00	ELECT 100uF 20% 10V		C507	1-136-153-00	FILM 0.01uF 5% 50V	
C310	1-164-159-11	CERAMIC 0.1uF 50V		C509	1-164-159-11	CERAMIC 0.1uF 50V	
C311	1-162-198-31	CERAMIC 8.2PF 10% 50V		C511	1-164-159-11	CERAMIC 0.1uF 50V	
C312	1-162-199-31	CERAMIC 10PF 5% 50V		C515	1-136-169-00	FILM 0.22uF 5% 50V	
C313	1-162-197-31	CERAMIC 6.8PF 10% 50V		C601	1-136-165-00	FILM 0.1uF 5% 50V	
C314	1-162-197-31	CERAMIC 6.8PF 10% 50V		C602	1-136-165-00	FILM 0.1uF 5% 50V	
C327	1-162-198-31	CERAMIC 8.2PF 10% 50V		C627	1-126-941-11	ELECT 470uF 20% 6.3V	
C330	1-162-215-31	CERAMIC 47PF 5% 50V		C651	1-136-165-00	FILM 0.1uF 5% 50V	
C331	1-162-306-11	CERAMIC 0.01uF 20% 16V		C652	1-136-165-00	FILM 0.1uF 5% 50V	
C332	1-164-159-11	CERAMIC 0.1uF 50V		C653	1-136-165-00	FILM 0.1uF 5% 50V	
C333	1-162-211-31	CERAMIC 33PF 5% 50V		C654	1-136-165-00	FILM 0.1uF 5% 50V	
C334	1-124-907-11	ELECT 10uF 20% 50V		C661	1-136-165-00	FILM 0.1uF 5% 50V	
C335	1-162-306-11	CERAMIC 0.01uF 20% 16V		C662	1-136-165-00	FILM 0.1uF 5% 50V	
C336	1-164-159-11	CERAMIC 0.1uF 50V		C663	1-136-165-00	FILM 0.1uF 5% 50V	
C337	1-164-159-11	CERAMIC 0.1uF 50V		C664	1-136-165-00	FILM 0.1uF 5% 50V	
C338	1-164-159-11	CERAMIC 0.1uF 50V		C665	1-136-165-00	FILM 0.1uF 5% 50V	
C340	1-164-159-11	CERAMIC 0.1uF 50V		C666	1-136-165-00	FILM 0.1uF 5% 50V	
C341	1-164-159-11	CERAMIC 0.1uF 50V		C667	1-136-165-00	FILM 0.1uF 5% 50V	
C342	1-124-442-00	ELECT 330uF 20% 6.3V		C668	1-124-443-00	ELECT 100uF 20% 10V	
C343	1-162-294-31	CERAMIC 0.001uF 10% 50V		C669	1-136-165-00	FILM 0.1uF 5% 50V	
C344	1-162-294-31	CERAMIC 0.001uF 10% 50V		C670	1-124-443-00	ELECT 100uF 20% 10V	
C345	1-162-294-31	CERAMIC 0.001uF 10% 50V		C671	1-124-443-00	ELECT 100uF 20% 10V	
C351	1-162-306-11	CERAMIC 0.01uF 20% 16V		C672	1-136-165-00	FILM 0.1uF 5% 50V	
C352	1-162-306-11	CERAMIC 0.01uF 20% 16V		C673	1-124-443-00	ELECT 100uF 20% 10V	
C353	1-162-294-31	CERAMIC 0.001uF 10% 50V		C674	1-136-165-00	FILM 0.1uF 5% 50V	
C354	1-164-159-11	CERAMIC 0.1uF 50V		C675	1-136-165-00	FILM 0.1uF 5% 50V	
C355	1-164-159-11	CERAMIC 0.1uF 50V		C683	1-136-165-00	FILM 0.1uF 5% 50V	
C356	1-164-159-11	CERAMIC 0.1uF 50V		C684	1-126-941-11	ELECT 470uF 20% 6.3V	
C361	1-162-302-11	CERAMIC 0.0022uF 30% 16V		C901	1-124-563-11	ELECT 2200uF 20% 25V	
C362	1-162-302-11	CERAMIC 0.0022uF 30% 16V		C902	1-126-939-11	ELECT 10000uF 20% 16V	
C431	1-162-302-11	CERAMIC 0.0022uF 30% 16V		C903	1-126-941-11	ELECT 470uF 20% 6.3V	
C432	1-162-305-11	CERAMIC 0.0068uF 30% 16V		C904	1-124-471-00	ELECT 1000uF 20% 6.3V	







# MAIN MOTOR PRIMARY

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R472	1-249-441-11	CARBON 100K 5% 1/4W		R999	1-247-739-11	CARBON 100 5% 1/2W F	
R481	1-249-441-11	CARBON 100K 5% 1/4W		R1100	1-249-411-11	CARBON 330 5% 1/4W	
R482	1-249-401-11	CARBON 47 5% 1/4W F		R1106	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R483	1-249-437-11	CARBON 47K 5% 1/4W		R1107	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R484	1-249-437-11	CARBON 47K 5% 1/4W		R1109	1-249-411-11	CARBON 330 5% 1/4W	
R485	1-249-441-11	CARBON 100K 5% 1/4W		R1111	1-249-433-11	CARBON 22K 5% 1/4W	
R491	1-249-417-11	CARBON 1K 5% 1/4W F		R1156	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R492	1-249-417-11	CARBON 1K 5% 1/4W F		R1157	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R493	1-249-407-11	CARBON 150 5% 1/4W F		R1159	1-249-411-11	CARBON 330 5% 1/4W	
R494	1-247-807-31	CARBON 100 5% 1/4W		R1160	1-249-411-11	CARBON 330 5% 1/4W	
R501	1-249-417-11	CARBON 1K 5% 1/4W F		R1161	1-249-433-11	CARBON 22K 5% 1/4W	
R502	1-249-429-11	CARBON 10K 5% 1/4W		R1519	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R503	1-249-441-11	CARBON 100K 5% 1/4W		R1601	1-249-429-11	CARBON 10K 5% 1/4W	
R516	1-249-425-11	CARBON 4.7K 5% 1/4W F		< VARIABLE RESISTOR >			
R517	1-249-417-11	CARBON 1K 5% 1/4W F		RV451	1-241-765-11	RES, ADJ, CARBON 22K	
R518	1-249-401-11	CARBON 47 5% 1/4W F		< RELAY >			
R601	1-249-413-11	CARBON 470 5% 1/4W F		RY651	1-515-803-11	RELAY	
R661	1-247-903-00	CARBON 1M 5% 1/4W		< VIBRATOR >			
R901	1-249-437-11	CARBON 47K 5% 1/4W		X301	1-567-816-11	VIBRATOR, CRYSTAL (18MHz)	
△R902	1-212-873-11	FUSIBLE 47 5% 1/4W F		X302	1-567-815-11	VIBRATOR, CRYSTAL (22MHz)	
R903	1-260-111-11	CARBON 10K 5% 1/2W		X303	1-567-814-11	VIBRATOR, CRYSTAL (24MHz)	
R904	1-249-433-11	CARBON 22K 5% 1/4W		*****			
R905	1-249-425-11	CARBON 4.7K 5% 1/4W F		*	1-655-913-11	MOTOR BOARD	
R906	1-249-433-11	CARBON 22K 5% 1/4W		*****			
R907	1-249-437-11	CARBON 47K 5% 1/4W		< CAPACITOR >			
R908	1-249-441-11	CARBON 100K 5% 1/4W		C01	1-161-772-11	CERAMIC 0.1uF 10% 25V	
R909	1-249-429-11	CARBON 10K 5% 1/4W		< CONNECTOR >			
R910	1-249-437-11	CARBON 47K 5% 1/4W		* CN1	1-564-498-11	PIN, CONNECTOR 5P	
R911	1-247-807-31	CARBON 100 5% 1/4W		* CN2	1-564-337-00	PIN, CONNECTOR 3P	
R912	1-247-807-31	CARBON 100 5% 1/4W		*****			
R913	1-249-401-11	CARBON 47 5% 1/4W F		*	1-656-333-11	PRIMARY BOARD	
R914	1-249-409-11	CARBON 220 5% 1/4W F		*****			
R915	1-249-433-11	CARBON 22K 5% 1/4W		*	3-346-266-12	PLATE, GROUND	
R917	1-249-431-11	CARBON 15K 5% 1/4W		< CAPACITOR >			
R918	1-249-425-11	CARBON 4.7K 5% 1/4W F		△C001	1-161-744-51	CERAMIC 0.01uF 400V	
R919	1-249-429-11	CARBON 10K 5% 1/4W		△C002	1-161-742-00	CERAMIC 0.0022uF 20% 400V	
R920	1-249-429-11	CARBON 10K 5% 1/4W		△C003	1-161-742-00	CERAMIC 0.0022uF 20% 400V	
R923	1-249-401-11	CARBON 47 5% 1/4W F		△C004	1-161-742-00	CERAMIC 0.0022uF 20% 400V	
R924	1-249-409-11	CARBON 220 5% 1/4W F		△C005	1-161-742-00	CERAMIC 0.0022uF 20% 400V	
R927	1-249-431-11	CARBON 15K 5% 1/4W		(AEP, G)			
△R931	1-217-371-00	FUSIBLE 0.47 5% 1/4W F					
R981	1-249-409-11	CARBON 220 5% 1/4W F					
R982	1-249-409-11	CARBON 220 5% 1/4W F					
R983	1-249-409-11	CARBON 220 5% 1/4W F					
R984	1-249-409-11	CARBON 220 5% 1/4W F					
R985	1-249-409-11	CARBON 220 5% 1/4W F					
R986	1-249-409-11	CARBON 220 5% 1/4W F					
R991	1-249-429-11	CARBON 10K 5% 1/4W					
R992	1-249-427-11	CARBON 6.8K 5% 1/4W F					
R998	1-249-409-11	CARBON 220 5% 1/4W F					

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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## PRIMARY

## REC VOL

## REEL MOTOR

## RF AMP

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< CONNECTOR >					
CN001	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P		C16	1-163-038-91	CERAMIC CHIP 0.1uF	25V
CN002	1-564-321-00	PIN, CONNECTOR 2P		C17	1-163-001-11	CERAMIC CHIP 220PF 10%	50V
		< COIL >		C18	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
△L001	1-424-485-11	FILTER, LINE		C19	1-163-001-11	CERAMIC CHIP 220PF 10%	50V
*****				C20	1-164-182-11	CERAMIC CHIP 0.0033uF 10%	50V
*	1-656-332-11	REC VOL BOARD		C21	1-163-005-11	CERAMIC CHIP 470PF 10%	50V
		*****		C22	1-126-603-11	ELECT CHIP 4.7uF 20%	35V
		< CONNECTOR >		C23	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
* CN602	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P		C24	1-163-038-91	CERAMIC CHIP 0.1uF	25V
		< RESISTOR >		C25	1-124-778-00	ELECT CHIP 22uF 20%	6.3V
R101	1-249-434-11	CARBON 27K 5% 1/4W		C26	1-163-038-91	CERAMIC CHIP 0.1uF	25V
R151	1-249-434-11	CARBON 27K 5% 1/4W		C27	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
		< VARIABLE RESISTOR >		C28	1-164-505-11	CERAMIC CHIP 2.2uF	16V
RV101	1-241-937-11	RES, VAR, CARBON 20K/20K (REC LEVEL)				< CONNECTOR >	
*****				* CN51	1-566-207-11	PIN, CONNECTOR (PC BOARD) 14P	
*	1-639-304-14	REEL MOTOR BOARD		* CN52	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	
		*****				< IC >	
		< CAPACITOR >		IC1	8-752-039-01	IC CXA1364R	
C07	1-163-077-91	CERAMIC CHIP 0.1uF 50V				< COIL >	
*****				L1	1-408-781-00	INDUCTOR CHIP 22uH	
*	A-2006-455-A	RF AMP BOARD, COMPLETE		L2	1-408-789-21	INDUCTOR CHIP 100uH	
		*****		L3	1-408-781-00	INDUCTOR CHIP 22uH	
		< CAPACITOR >				< RESISTOR >	
C1	1-124-778-00	ELECT CHIP 22uF 20% 6.3V		R1	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
C2	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V		R2	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
C3	1-163-117-00	CERAMIC CHIP 100PF 5% 50V		R3	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
C4	1-107-682-11	CERAMIC CHIP 1uF 10% 16V		R4	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
C5	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V		R5	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C6	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V		R6	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C7	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V		R7	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C8	1-124-778-00	ELECT CHIP 22uF 20% 6.3V		R8	1-216-079-00	METAL CHIP 18K 5% 1/10W	
C9	1-124-778-00	ELECT CHIP 22uF 20% 6.3V		R9	1-216-075-00	METAL CHIP 12K 5% 1/10W	
C10	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V		R10	1-216-079-00	METAL CHIP 18K 5% 1/10W	
C11	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V		R11	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C12	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V		R12	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C13	1-107-682-11	CERAMIC CHIP 1uF 10% 16V		R13	1-216-077-00	METAL CHIP 15K 5% 1/10W	
C14	1-163-117-00	CERAMIC CHIP 100PF 5% 50V		R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	
C15	1-124-778-00	ELECT CHIP 22uF 20% 6.3V		R15	1-216-085-00	METAL CHIP 33K 5% 1/10W	
		< VARIABLE RESISTOR >		R16	1-216-089-00	METAL CHIP 47K 5% 1/10W	
				R17	1-216-080-00	METAL CHIP 20K 5% 1/10W	
				R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	

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Replace only with part number  
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Ne les remplacer que par une pièce  
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RGN SW	SW	TOP END SENSOR
--------	----	----------------

Ref.No.	Part No.	Description	Remark
*****			
*	1-639-301-11	RGN SW BOARD *****	
		< SWITCH >	
S01	1-571-878-11	SWITCH, PUSH (2 KEY) (CASSETTE IN, REC PROOF)	
*****			
*	1-655-916-11	SW BOARD *****	
		< SWITCH >	
S1	1-571-958-11	SWITCH, PUSH (1 KEY) (CASSETTE TABLE IN)	
S2	1-571-958-11	SWITCH, PUSH (1 KEY) (CASSETTE TABLE OUT)	
*****			
*	1-639-305-11	TOP END SENSOR BOARD *****	
*	3-368-456-01	HOLDER (END SENSOR LIGHT)	
*	3-368-457-01	HOLDER (END SENSOR) (RECIEVE)	
		< DIODE >	
D01	8-719-988-42	DIODE GL453S	
		< PHOTO INTERUPTER >	
PH03	8-729-907-25	TRANSISTOR PT4850F (TAKE-UP)	
PH04	8-729-907-25	TRANSISTOR PT4850F (SUPPLY)	
*****			
		MISCELLANEOUS *****	
△2	1-575-651-21	CORD, POWER (AEP, G)	
△2	1-590-836-11	CORD, POWER (US, CND)	
70	1-775-464-11	WIRE (FLAT TYPE) (17 CORE)	
106	1-775-389-11	WIRE (FLAT TYPE) (31 CORE)	
* 111	1-533-213-31	HOLDER, FUSE	
112	1-537-770-21	TERMINAL BOARD, GROUND	
325	8-848-567-11	DRUM ASSY DOU-03A	
△F901	1-532-286-00	FUSE (T2. 5A 250V) (AEP, G)	
△F901	1-576-105-11	FUSE (2. 5A 250V) (US, CND)	
FL801	1-517-382-11	INDICATOR TUBE, FLUORESCENT	
M901	X-3370-655-1	MOTOR ASSY	
M902	8-835-361-01	MOTOR, DC U-17B (CAPSTAN)	
M903	X-3363-109-1	MOTOR (CAM) ASSY	
M905	X-3363-110-2	MOTOR (REEL) ASSY	
PM902	1-454-536-11	SOLENOID, PLUNGER	

Ref.No.	Part No.	Description	Remark
PM903	1-454-732-11	SOLENOID, PLUNGER	
RV101	1-241-937-11	RES, VAR, CARBON 20K/20K (REC LEVEL)	
△T901	1-427-889-11	TRANSFORMER, POWER (US, CND)	
△T901	1-427-890-11	TRANSFORMER, POWER (AEP, G)	
*****			
		ACCESSORIES & PACKING MATERIALS *****	
	1-473-088-11	REMOTE COMMANDER (RM-D9)	
	1-558-271-11	CORD, CONNECTION (AUDIO 108cm)	
*	3-384-415-01	CUSHION	
	3-798-560-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (AEP, CND)	
	3-798-560-21	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-798-560-31	MANUAL, INSTRUCTION (GERMAN) (G)	
	3-798-560-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP)	
*	3-926-367-01	INDIVIDUAL CARTON	
	4-962-615-01	COVER, BATTERY (for RM-D9)	
*****			
		HARDWARE LIST *****	
#1	7-682-548-09	SCREW +BVTT 3X8 (S)	
#2	7-685-645-79	SCREW +BVTP 3X6 TYPE2 IT-3	
#3	7-685-534-19	SCREW +BTP 2. 6X8 TYPE2 N-S	
#4	7-685-871-01	SCREW +BVTT 3X6 (S)	
#5	7-621-772-20	SCREW +B 2X5	
#6	7-627-854-07	PRECISION SCREW +P 2X2. 5 TYPE3	
#7	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT	
#8	7-685-533-19	SCREW +BTP 2. 6X6 TYPE2 N-S	
#9	7-627-450-28	+K 1. 7X2	
#10	7-627-852-27	+P 1. 7X3	
#11	7-621-772-00	SCREW +B 2X3	
#12	7-621-255-15	SCREW +P 2X3	
#13	7-621-773-86	SCREW +B 2. 6X4	
#14	7-627-556-17	SCREW, PRECISION +P 2. 6X3 TYPE1	
#15	7-627-552-27	SCREW, PRECISION +P 1. 7X2	
#16	7-621-772-18	SCREW +B 2X4	
#17	7-627-552-47	SCREW, PRECISION +P 1. 7X4	
#18	7-621-255-20	SCREW +BVTT 2X4 (S)	
#19	7-685-133-19	SCREW +BTP 2. 6X6 TYPE2 N-S	
#20	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

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**Sony Corporation**  
Consumer A&V Products Company  
Home A&V Products Div.

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# DTC-790

## SONY SERVICE MANUAL

US Model  
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### SUPPLEMENT-1

File this supplement with the service manual.

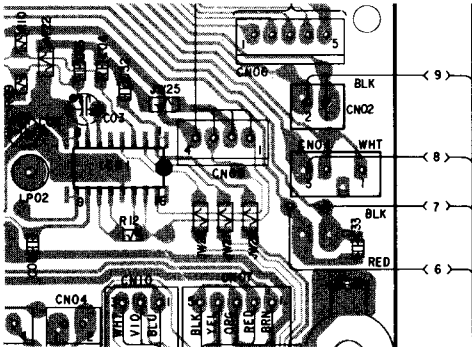
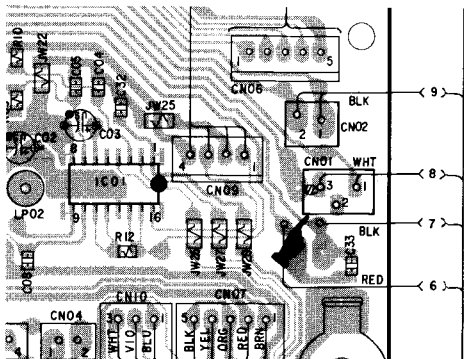
Subject : 1. Correction  
2. Parts changed  
3. Board change


(ECN-TC500608/TC500800)

#### 1. Correction

 : Indicates corrected portion

#### PRINTED WIRING BOARD

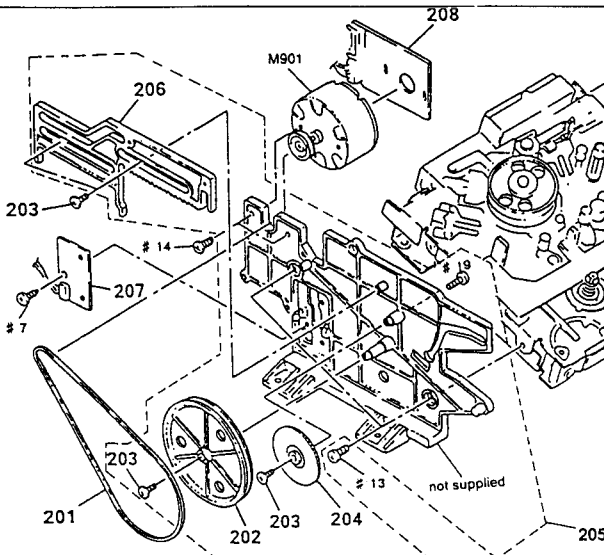
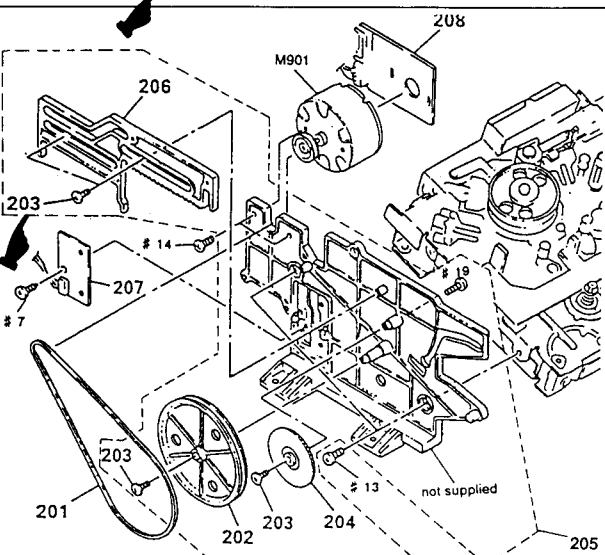
Page	INCORRECT	CORRECT
26	<b>[DRUM DRIVE BOARD]</b> Location: I-18 	

NOTE:  is Soldering bridge



✖ : indicates corrected portion

## EXPLODED VIEWS

Page	INCORRECT				CORRECT			
	Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark
46	205	3-373-234-05	CHASSIS (L)		205	A-2004-153-E	CHASSIS (L) ASSY	
								

## 2. PARTS CHANGED

- Revise your service manual as shown below due to parts supply classification has been changed.

Page	CURRENT				REVISED			
	Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark
47	309	X-3337-643-1	GUIDE (RIC) ASSY, ROLLER		309	X-3371-518-1	ROLLER GUIDE ASSY	

## ELECTRICAL PARTS LIST

Page	FORMER				NEW			
	Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark
49			<b>** DISPLAY (A) BOARD **</b> IC801 8-752-863-91 IC CXP82316-054Q				<b>** DISPLAY (A) BOARD **</b> IC801 8-752-869-39 IC CXP87532-061Q	
51			<b>** HEADPHONE BOARD **</b> △R691 1-202-857-11 THERMISTOR, POSITIVE 33 △R692 1-202-857-11 THERMISTOR, POSITIVE 33				<b>** HEADPHONE BOARD **</b> △R691 1-808-374-11 THERMISTOR, POSITIVE 33 △R692 1-808-374-11 THERMISTOR, POSITIVE 33	
56			<b>** MAIN BOARD **</b> R516 1-249-425-11 CARBON 4.7K 5% 1/4W F				<b>** MAIN BOARD **</b> R516 1-249-429-11 CARBON 10K 5% 1/4W F	

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Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



# DTC-790

## SONY<sup>®</sup> SERVICE MANUAL

US Model  
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### SUPPLEMENT-1

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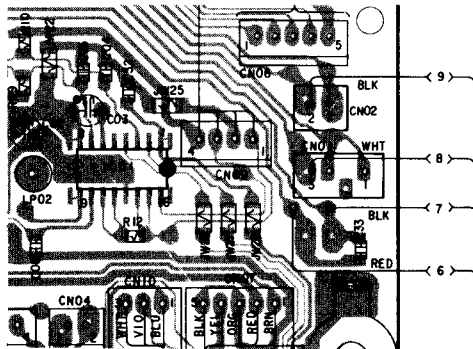
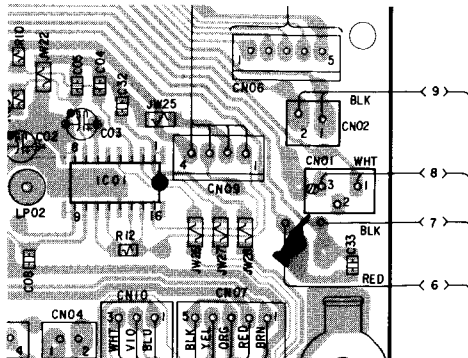
Subject : 1. Correction  
2. Parts changed  
3. Board change

(ECN-TC500608/TC500800)

#### 1. Correction

☞ : Indicates corrected portion

#### PRINTED WIRING BOARD

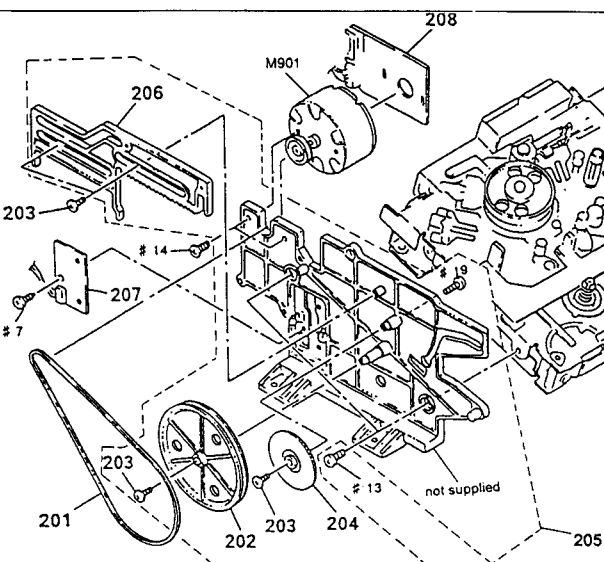
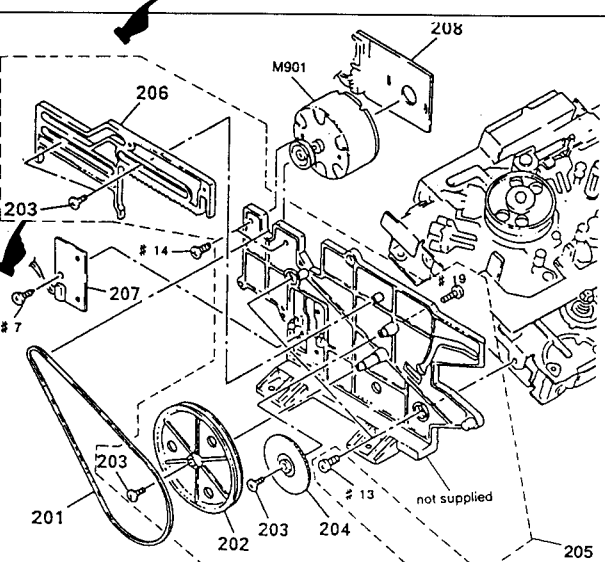
Page	INCORRECT	CORRECT
26	<p><b>[DRUM DRIVE BOARD]</b> Location: I-18</p> 	

NOTE: ☞ is Soldering bridge



✖ : indicates corrected portion

## EXPLODED VIEWS

Page	INCORRECT				CORRECT			
	Ref. No	Part No	Description	Remark	Ref. No	Part No	Description	Remark
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## ELECTRICAL PARTS LIST

Page	FORMER				NEW			
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51	<b>** HEADPHONE BOARD **</b> ⚠R691 1-202-857-11 THERMISTOR, POSITIVE 33 ⚠R692 1-202-857-11 THERMISTOR, POSITIVE 33				<b>** HEADPHONE BOARD **</b> ⚠R691 1-808-374-11 THERMISTOR, POSITIVE 33 ⚠R692 1-808-374-11 THERMISTOR, POSITIVE 33			
56	<b>** MAIN BOARD **</b> R516 1-249-425-11 CARBON 4.7K 5% 1/4W F				<b>** MAIN BOARD **</b> R516 1-249-429-11 CARBON 10K 5% 1/4W F			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

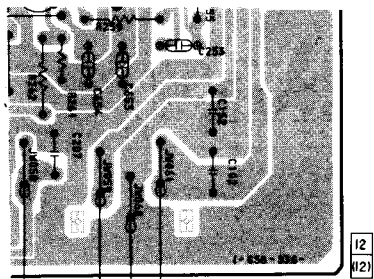
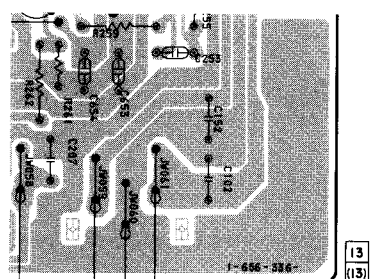
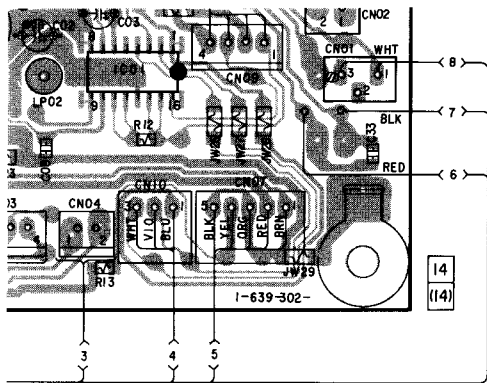
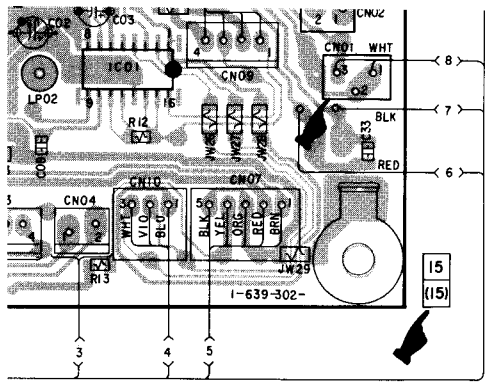
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### 3. BOARD CHANGE

 : Changed portion

#### PRINTED WIRING BOARD

Page	FORMER	NEW
24	<p><b>[MAIN BOARD]</b> Location: L-17, 18</p>  <p>J101 ANALOG(LINE) IN</p> <p>L R L</p>	 <p>J101 ANALOG(LINE) IN</p> <p>L R L</p>
28	<p><b>[DRUM DRIVE BOARD]</b> Location: J-17, 18</p>  <p>3 4 5</p>	 <p>3 4 5</p>

**NOTE:**  is Soldering bridge







# DTC-790

## SONY<sup>®</sup> SERVICE MANUAL

US Model  
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### SUPPLEMENT-1

File this supplement with the service manual.

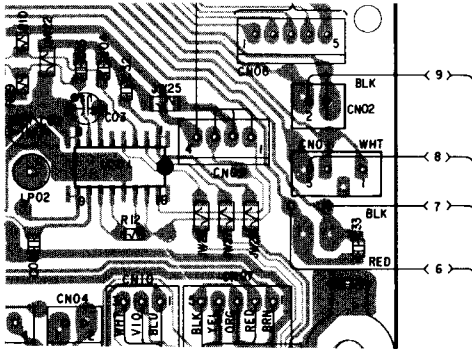
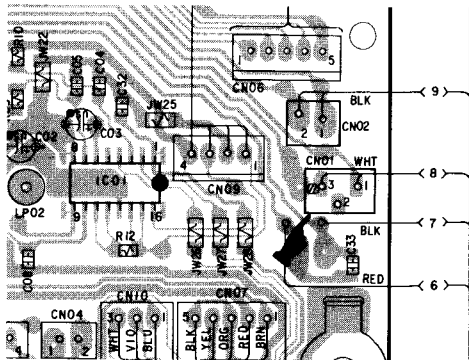
Subject : 1. Correction  
2. Parts changed  
3. Board change

(ECN-TC500608/TC500800)

#### 1. Correction

✂ : Indicates corrected portion

#### PRINTED WIRING BOARD

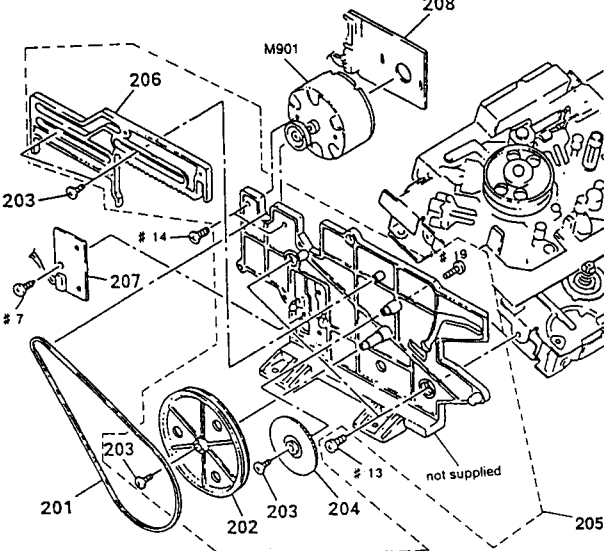
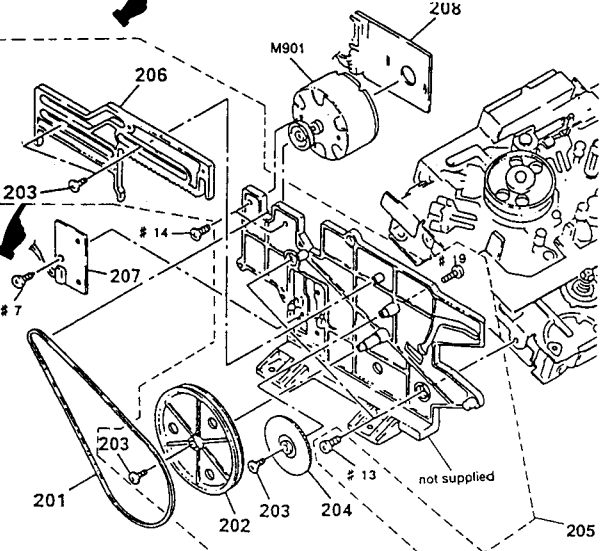
Page	INCORRECT	CORRECT
26	<p><b>[DRUM DRIVE BOARD]</b> Location: I-18</p> 	

NOTE:  is Soldering bridge



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## EXPLODED VIEWS

Page	INCORRECT				CORRECT			
	Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark
46	205	3-373-234-05	CHASSIS (L)		205	A-2004-153-E	CHASSIS (L) ASSY	
								

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	Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark
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## ELECTRICAL PARTS LIST

Page	FORMER				NEW			
	Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark
49	<b>** DISPLAY (A) BOARD **</b> IC801 8-752-863-91 IC CXP82316-054Q				<b>** DISPLAY (A) BOARD **</b> IC801 8-752-869-39 IC CXP87532-061Q			
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The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

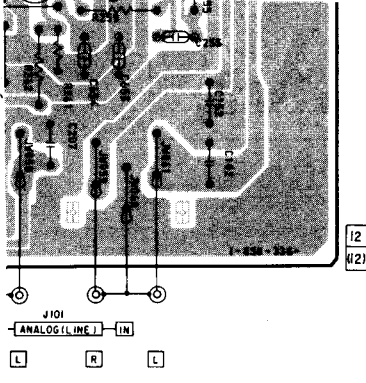
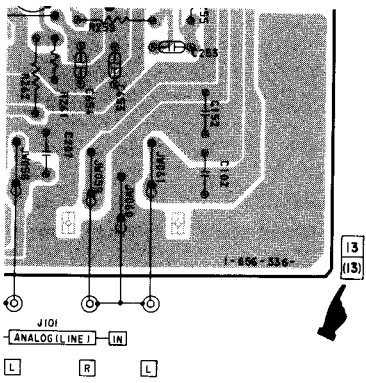
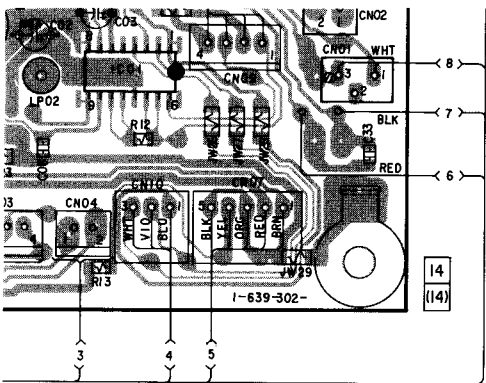
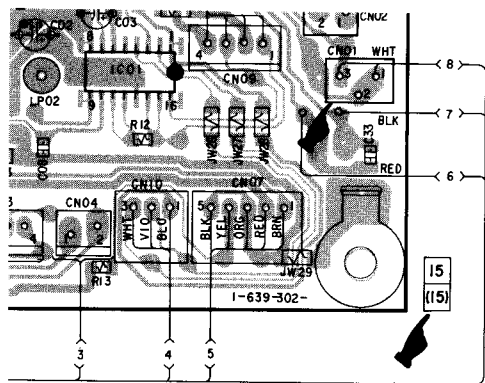
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### 3. BOARD CHANGE

 : Changed portion

#### PRINTED WIRING BOARD

Page	FORMER	NEW
24	<p><b>[MAIN BOARD]</b> Location: L-17, 18</p> 	
28	<p><b>[DRUM DRIVE BOARD]</b> Location: J-17, 18</p> 	

**NOTE:**  is Soldering bridge







# DTC-790

## SONY SERVICE MANUAL

US Model  
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### SUPPLEMENT-1

File this supplement with the service manual.

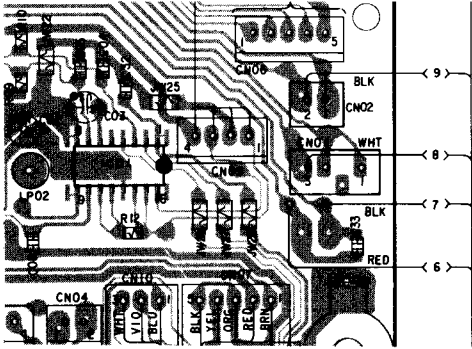
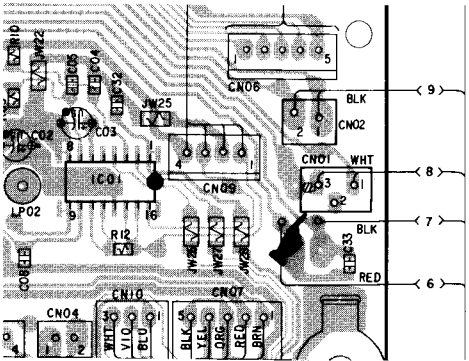
Subject : 1. Correction  
2. Parts changed  
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(ECN-TC500608/TC500800)

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#### PRINTED WIRING BOARD

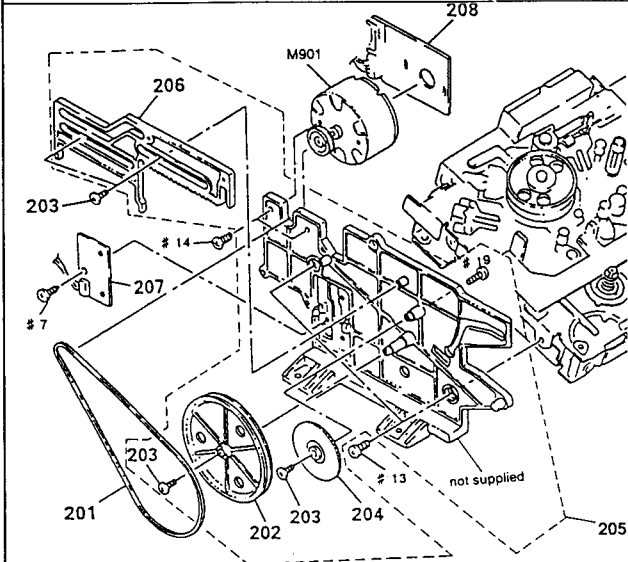
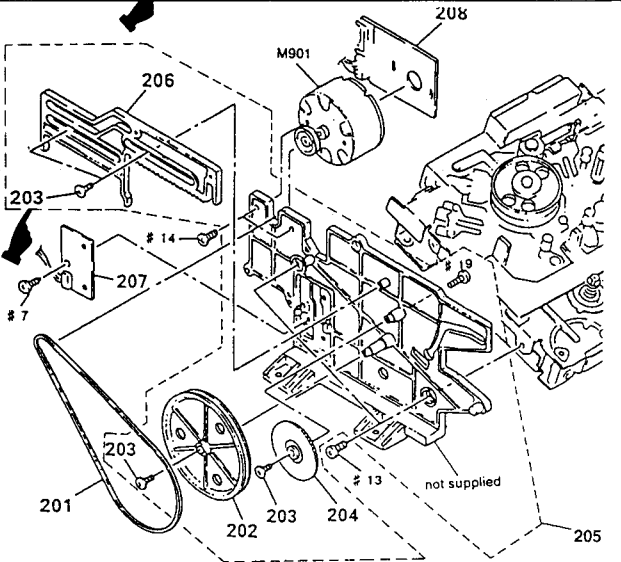
Page	INCORRECT	CORRECT
26	<p><b>[DRUM DRIVE BOARD]</b> Location: I-18</p> 	

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## EXPLODED VIEWS

Page	INCORRECT				CORRECT			
	Ref. No	Part No	Description	Remark	Ref. No	Part No	Description	Remark
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Page	FORMER				NEW			
	Ref. No	Part No	Description	Remark	Ref. No	Part No	Description	Remark
49	<b>** DISPLAY (A) BOARD **</b> IC801 8-752-863-91 IC CXP82316-054Q				<b>** DISPLAY (A) BOARD **</b> IC801 8-752-869-39 IC CXP87532-061Q			
51	<b>** HEADPHONE BOARD **</b> ▲R691 1-202-857-11 THERMISTOR, POSITIVE 33 ▲R692 1-202-857-11 THERMISTOR, POSITIVE 33				<b>** HEADPHONE BOARD **</b> ▲R691 1-808-374-11 THERMISTOR, POSITIVE 33 ▲R692 1-808-374-11 THERMISTOR, POSITIVE 33			
56	<b>** MAIN BOARD **</b> R516 1-249-425-11 CARBON 4.7K 5% 1/4W F				<b>** MAIN BOARD **</b> R516 1-249-429-11 CARBON 10K 5% 1/4W F			

The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

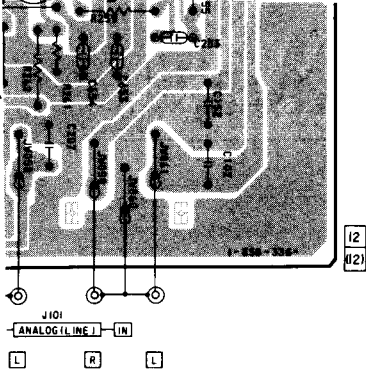
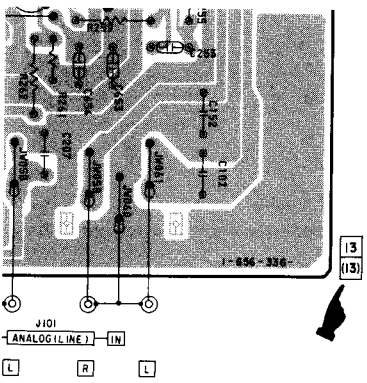
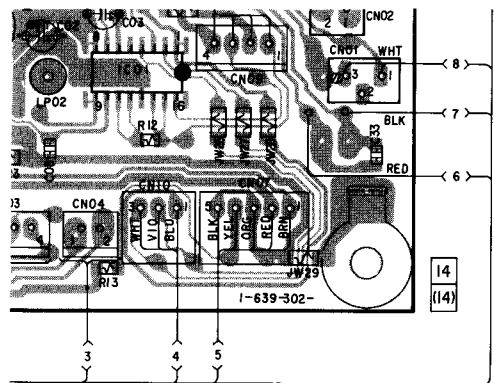
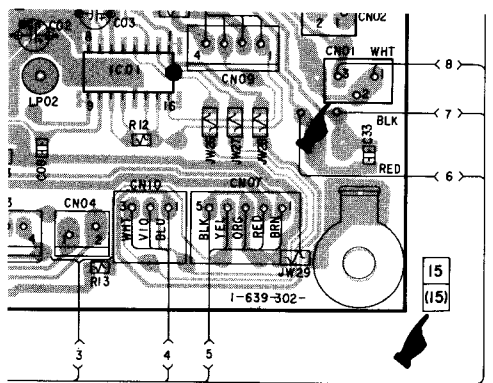
Les composants identifiés par une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



### 3. BOARD CHANGE

 : Changed portion

#### PRINTED WIRING BOARD

Page	FORMER	NEW
24	<p><b>[MAIN BOARD]</b> Location: L-17, 18</p>  <p>Diagram of the former Main Board (L-17, 18) showing components and a shaded area at the bottom right corner.</p>	 <p>Diagram of the new Main Board (L-17, 18) showing components and a shaded area at the bottom right corner.</p>
28	<p><b>[DRUM DRIVE BOARD]</b> Location: J-17, 18</p>  <p>Diagram of the former Drum Drive Board (J-17, 18) showing components and a shaded area at the bottom right corner.</p>	 <p>Diagram of the new Drum Drive Board (J-17, 18) showing components and a shaded area at the bottom right corner.</p>

**NOTE:**  is Soldering bridge








 : Changed portion

Page	
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Page	FORMER	NEW
24	<p><b>[MAIN BOARD]</b> Location: L-17, 18</p>	
28	<p><b>[DRUM DRIVE BOARD]</b> Location: J-17, 18</p>	

**NOTE:**  is Soldering bridge